MINES DEPARTMENT

MINERS GUIDE

Information on prospecting and mining in New Zealand

Tom Field
NOV 1976

THE

MINERS GUIDE

New Zealand Mines Department

Wellington 1974

THE MINERS GUIDE

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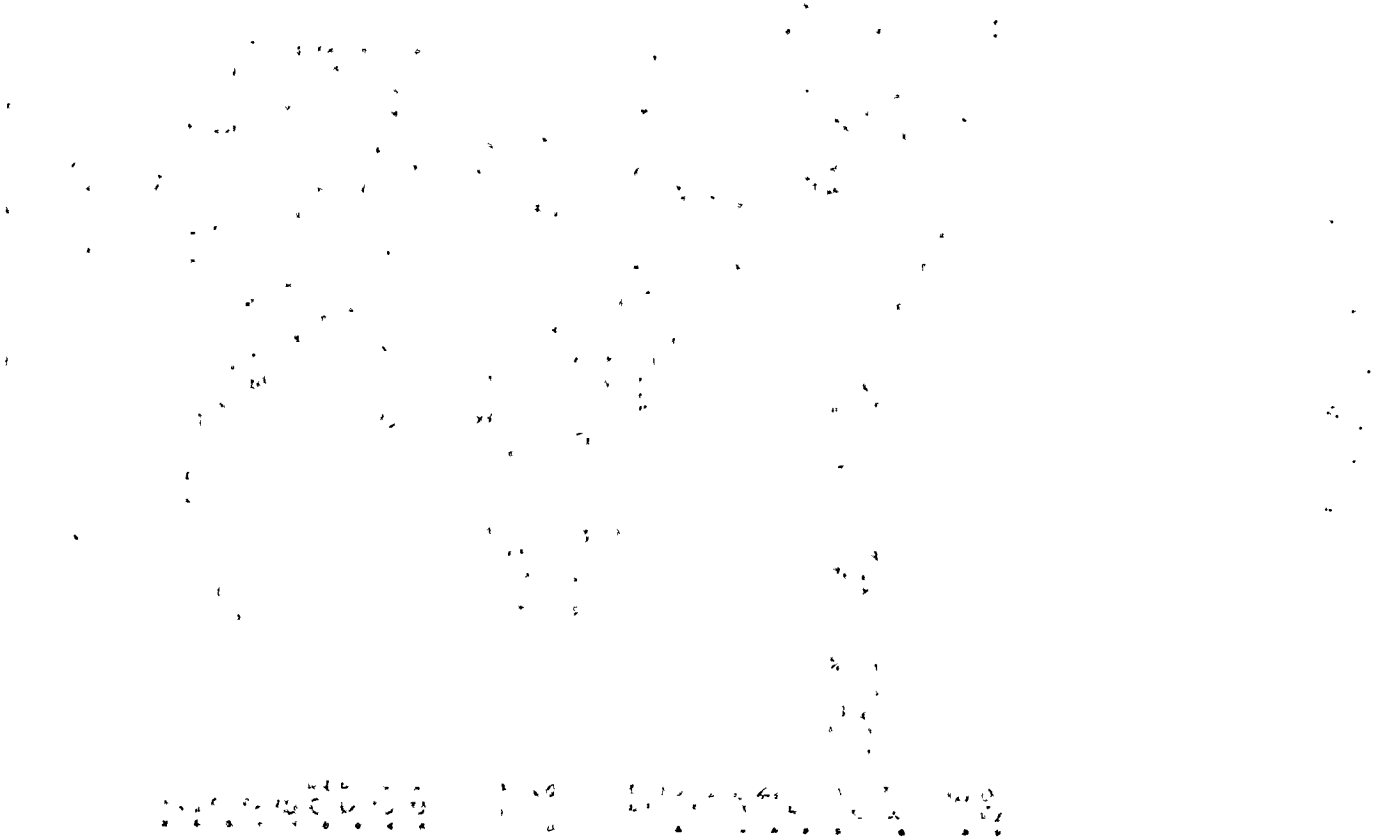


INTRODUCTION

The Miners Guide contains information on the administration of prospecting and mining in New Zealand, in particular on the administration of the Mining Act 1971 and the Mining Regulations 1973. It attempts to provide information to meet most situations without entering into the detail of the legislation.

Nevertheless the Guide is merely that, and is no substitute for reading the legislation nor for professional advice. References to relevant sections of the legislation are included throughout the Guide. An index to the legislation is also available.

Throughout the Guide, units of length and area are quoted in the same system of measurement as in the legislation. In addition the exact equivalent in metric units is quoted. In the change to metric units in the legislation, the new figures are close to but not exact equivalents of the old.

EXCHANGING MINING PRIVILEGES

Section of Mining Act 1971

When and how to exchange existing rights.

Do I have to exchange a privilege obtained under the Mining Act 1926 for one under the Mining Act 1971?

The answer is generally "no", provided that:

* No change is needed in the expiry date, ownership, conditions or encumbrances, etc.

But the answer is generally "yes", if:

136(3) * the term of the privilege extends beyond 1 April 1978, (i.e. more than 5 years from the date on which the 1971 Act came into force);

136(4) * there is any question of transfer, lease or other dealing with the privilege:

What type of privilege can I exchange it for?

You have the right to obtain a mining privilege under the 1971 Act of the type that most closely resembles your existing privilege.

1926 Act Privileges	1971 Exchange Provisions
135 Miners Right) Prospecting Warrant)	Continues in force until its normal expiry date. There is no provision for exchange of these privileges. Once a Miner's Right has expired a Prospector's Right may be obtained as shown on page C1. There is no equivalent under the new Act for a Prospecting Warrant.
136 Ordinary Prospecting Licence) Tunnel Prospecting Licence) Mineral Prospecting Warrant)	Continues in force until normal expiry date or 1 April 1978, whichever is sooner, and then expires: OR it can be exchanged before then for a 1971 Act Prospecting Licence in the following ways:

(i) if the privilege is to have the same expiry date as the old privilege, the holder has the right to obtain the new privilege without going through the procedures of the 1971 Act for obtaining consents and giving public notice and without his application being subject to objection; BUT a prospecting licence obtained in this way does NOT include a right to exchange it for Mining Licences in terms of S.57 of the 1971 Act - the consent and public notice procedure must be completed as set out in the 1971 Act before mining licences are granted.

(ii) if the new privilege is to have a different expiry date, conditions etc. or is required to give a statutory right of exchange for a mining licence the holder has the right to obtain a new privilege but the consent and public notice procedure must be completed in terms of the 1971 Act before it is granted.

Claim Licences: Ordinary, Extended or Special Alluvial, River, Quartz, Seabeach and Dredging	Continue in force until expiry date or 1 April 1978, whichever is sooner, and then expire; OR they can be exchanged before then for a Mining Licence in the following ways:

136

i) if the new mining licence is to be the same as the old privilege in term, conditions etc., the holder has the right to obtain the new privilege without going through the procedures of the 1971 Act for obtaining consent and giving public notice, without being subject to objection;

ii) if the new privilege is to have a different term, conditions etc., the holder has the right to obtain a new privilege but the consent and public notice procedure must be completed in terms of the 1971 Act before it is granted.

136 Special Site Licence — Continues in force until normal expiry date or 1 April 1978 whichever is sooner, and then expires. New SSLs can be held only in conjunction with a Mining or Prospecting Licence; therefore, any old SSLs held in this manner may be exchanged for new SSLs on new terms and conditions if required. Old SSLs not held in conjunction with a Mining or Prospecting Licence may be exchanged only for one with the original expiry date.

136 Business Site Licence / Residence Site Licence — Should be transferred to the District Land Registry Office in accordance with the Mining Tenures Registration Act 1962, otherwise they will expire on their normal expiry date or 1 April 1978, whichever is sooner, and they will not be renewed. No equivalent licence can be granted.

136 Water Race Licences / Dam Licences & other mining privileges in respect of water — There is no equivalent licence. If the old licence was granted before 9 September 1966 and the Regional Water Board has been notified in terms of section 2(2) of the Water and Soil Conservation Amendment Act 1969, the

	licence will continue in force until its normal expiry date, and may be renewed through the Regional Water Board. If notice has not been given the licence is invalid. Licences granted after 9 September 1966 remain current until their expiry date, and new licences may then be obtained from the Regional Water Board.
Other licences (roads, tramways, ropeways, pipelines, tunnels, bridges, easement certificates)	Continue in force until normal expiry date or 1 April 1978, whichever is sooner, and then expire. New licences can be held only in conjunction with a Mining or Prospecting Licence; therefore any old licences held in this manner may be exchanged for new licences on new terms and conditions if required. Old licences not held in conjunction with a Mining or Prospecting licence may be exchanged only for one with the original expiry date.

136

What else is there about exchanging privileges?

136(2)

You should note that:

If your mining privilege under the 1926 Act contains a right of renewal or a right of priority, these rights are cancelled with effect 1 April 1973.

Every right, title or interest registered against a privilege under the 1926 Act will be duplicated exactly under the 1971 Act as far as possible when a new licence is prepared by the Mines Department. It may be necessary for the holder of the old privilege to arrange for the production of such documents to the Secretary of Mines before a new licence is granted in exchange.

How do I go about exchanging an existing privilege?

You have to fill in the appropriate form for a new privilege, taking care to complete the part dealing with transitional provisions. You should specify if a fresh licence is required.

APPLICATIONS FOR MINING PRIVILEGES

Section 46 Mining Act 1971 of Regulations(R)

Prospectors' Rights

A Prospector's Right authorises the holder to prospect on unoccupied Crown land and to take samples, and may be obtained from the Secretary of Mines, Inspectors of Mines and from the following Post Offices:

Ahaura	Howard	Queenstown
Alexandra	Hyde	Riverton
Arrowtown	Invercargill	Ross
Auckland	Kaitaia	Rotorua
Blackball	Kumara	Roxburgh
Blenheim	Lawrence	Takaka
Canvastown	Lower Hutt	Taupo
Christchurch	Masterton	Tauranga
Clyde	Motueka	Te Aroha
Coromandel	Murchison	Timaru
Cromwell	Napier	Thames
Cronadun	Naseby	Waihi
Dunedin	Nelson	Waikaia
Duntroon	Nelson Creek	Waikaka
Gisborne	New Plymouth	Waimangaroa
Gore	Oamaru	Wanaka
Hamilton	Omakau	Wanganui
Hastings	Orepuki	Westport
Havelock	Palmerston	Whakatane
Hokitika	Patearoa	Whangarei
	Picton	Whitianga

Unlike the Miner's Right under the Mining Act 1926, the Prospector's Right is not a prerequisite for making applications for mining privileges.

44(1) Prospectors' Rights may be issued to any person over the age of 14 years for a fee of $2, and are valid for one year from the date of issue.

44(2) If a Right is issued to a corporate body, the name of the manager or officer responsible must be stated.

Note: Unoccupied Crown Land does not include such land as State Forests, Reserves and National Parks; however, it may include a strip 66ft (20.12m) wide along the banks of rivers more than 10ft (3.05m) wide (Land Act 1948 S.58(1)). Land tenure maps may

be examined at the offices of the local Commissioners of Crown Lands, and maps of mining privileges can be seen at the Head Office of the Lands and Survey Department, and Mines Department offices.

Prospecting Licences

The prospecting licence covers an area of up to 10,000 acres (4046.8 hectares) and may be granted for a maximum of three years. One renewal may be granted for the same as the original term. 48(2) 50

The holder of a Prospecting Licence is entitled to enter the land specified in the licence (with consent, where required), to dig pits and trenches, sink bores etc for prospecting purposes and to take samples. 55

Prospecting must be vigorously and continuously carried out to the satisfaction of the Secretary of Mines, and all minerals discovered must be promptly reported to the Secretary or an Inspector of Mines. This information may be provided in any way to suit (unless specified in the terms of the licence), but in particular may be included in a geological report of the type prepared in the normal course of an investigation. (See section of Miners Guide on report requirements). 52(1a) 52(1b)

The land surface must be restored on completion of work to as near as possible its state before work commenced (unless the Inspector of Mines directs otherwise), and as far as possible damage to trees or animals must be prevented. Further conditions safeguarding against damage to land or environment may be included in the licence. 52(1c) 52(1d)

Before application is made for a Prospecting Licence of 100 acres (40.47 hectares) or less the land must be marked out in the prescribed manner (in general by a large peg at each corner and two trenches from each peg to indicate the direction of the boundary. However, see the section "Marking Out"). 53(2)

R 1st Sched All applications for Prospecting Licences must be made on the prescribed form. The original application form and five copies must each be accompanied by:

49(1) R10 (a) a statement of the proposed method of prospecting and proposed expenditure;

53(3) 54(2) (b) A map in which the area of the licence applied for is clearly delineated and identified by reference to its legal description and ownership, and to cadastral boundaries, survey monuments, topographic features or existing mining privileges as appropriate. Wherever possible, applications should use a tracing of the NZMS 177 maps available from Commissioners of Crown Lands.

(Note: It is usual to delineate clearly the area applied for on the map, and where appropriate to show distances and bearings also. Where it is not appropriate a schedule may be attached to each copy of the plan, showing the legal description and ownership.

53(3) 54(2) (c) a written description of the area applied for. It is important that this is adequate to identify the land without the use of the accompanying plan, but with the use of available data such as that given in the NZMS 177 maps. The description can then be used by the applicant in his newspaper advertisement to be published within seven days of lodging the application, and by the Mines Department in the advice notices which it posts in the Magistrate's Court and the office of the Inspector of Mines.

In addition to the completed application and copies, the following moneys are payable:

54(3) R9(2) (a) a deposit of $50 for the first 100 acres (40.47 hectares) and $10 for each additional 100 acres or part thereof. No deposit is required if the total area is 100 acres or less. A bond may be accepted by the department in lieu of a deposit (i.e. a

promise by a third party such as a bank, insurance company or other financial institution, standing surety for the applicant). An example of the form of bond required is given at the back of the Guide.

R4 2nd Sighed.

(b) an application fee of $5

R8 R9 (c) rent for the first year of 10c an acre or part thereof, with a minimum of $5 for under 100 acres and a minimum of $50 for more than 100 acres.

49(2) R36 Each application must also be accompanied by the original consent (on the prescribed form) of the owner and occupier of the land if the land is privately owned.

(See also "General Requirements for Mining Privileges").

Exploration Licences

The purpose of the Exploration Licence is to enable more accurate positioning of the basic prospecting right, the Prospecting Licence, by regional interpretation of the geology.

The Exploration Licence is not regarded as a usual type of licence, and in most instances direct application for a Prospecting Licence will be considered more appropriate.

Because Exploration Licences provide special privileges for entry on to land, only those programmes that have a minimal effect on the environment and on property will be authorised.

As an Exploration Licence covers a large area, it will only in exceptional circumstances be granted in an area of intensive mining or exploration activity, and in such a case the maximum duration of the title may be reduced.

It is not intended that any but brief overall reconnaissance will be carried out under an Exploration Licence, which will provide only the initial information to determine areas worth more detailed reconnaissance, and will not lead directly to the examination stage.

s.66 s.39 The holder of an Exploration Licence is entitled to enter the land specified in the licence (with consent, where required), to take samples, and to do whatever may be necessary for purposes of a geological, geochemical or geophysical survey.

s.66(2) An Exploration Licence covers an area of between 10,000 acres (4046.8 hectares) or 15 7/8 sq miles (40.468 km^2) and 200 sq miles (518 km^2) and may be granted in respect of any land whether s.56 open for mining or not, and whether or not it is s.66(3)(a) the subject of any other mining privilege. However, the consent of the owner of any land over which any such mining privilege is held must be obtained before the holder of an exploration licence may enter that land. s.59 The holder of any other licence over the same ground has priority for the issue of a Prospecting or Mining Licence, and any applicant s.56 for an Exploration Licence over ground already held under Exploration Licence must obtain the written consent of the holder. The holder of an Exploration Licence may not without the consent of the owner and occupier enter on any domestic or certain cultivated land.

s.67 Holders of Exploration Licences must not interfere with existing mining privilege operations.

s.63 An Exploration Licence may be granted for a maximum of two years. The licensee must explore for minerals on a large scale, carrying out such appropriate s.65 surveys as the Minister may approve, and providing periodical reports.

Applications should be in the form of a letter; there is no specific form supplied. Each application for an Exploration Licence must be supported by the following:

61(1a) a) The proposed method of exploration.

61(1b) b) Details of the proposed work programme.

61(1c) c) A statement of the amount of money expected to be spent.

61(1c)61(2) d) A map that identifies the area of the application.

R15a e) Evidence of the financial standing of the company.

R15b f) Evidence of the technical qualifications of the applicant and his technical advisors.

R15c g) Evidence of the ability of the applicant to comply with the provisions of the Act relating to the licence.

R13(2) h) A deposit of $2000 (or an equivalent bond, which may be accepted only at the Minister's direction. An example of the type of bond required is given at the back of the Guide).

R4 2nd Sched i) An application fee of $5.

R13(1) j) The rent for the first year of $1 per square mile, with a minimum of $100.

See also "General Requirements for Mining Privileges."

69 **Mining Licences**

77 (1) A Mining Licence may be granted for a maximum of

forty-two years, and may be granted over any land open for mining, with a maximum of 1000 acres (404.7 hectares) for any one licence.

78 A Mining Licence is required whether the minerals to be mined are underground or form part of the surface.

The holder of a Mining Licence is entitled to mine the minerals specified in the licence and dispose of the minerals so mined, and to do whatever 87 is necessary to carry out mining operations (e.g. erect plant, buildings, build access roads, etc).

The area of the licence application must be 71 marked out in the prescribed manner, and unless otherwise adequately surveyed, must be surveyed by a registered surveyor, and the plan lodged with the Chief Surveyor (Lands & Survey Department) for approval. If it is 73(3) approved the applicant must forward at least four copies to the Mines Department to be attached to the copies 1st sched of the licence.

If the area applied for has already been adequately surveyed, or is exempted from survey for some other reason provided for in Section 74, the applicant must lodge a plan with the Chief Surveyor. The plan must be of such a standard that the Chief Surveyor can certify it correct for the purpose of identifying the land concerned.

Each application for a Mining Licence must be made on the prescribed form. The original application 70(1a) form and five copies must each be accompanied by:

(a) a statement of the mineral or minerals to be mined,

(1b) (b) the method of mining to be used,

(1c) (c) details of the work programme,

(d) an estimate of the money to be expended on mining,

71(2) (e) a plan of the land, its legal description and statement of ownership, and showing the method used to mark the ground.

R4 2nd sched In addition to the completed application and copies, an application fee of $5 is payable.

70(3) R 1st sched Each application must also be accompanied by the original consent (on the prescribed form) of the owner and occupier if the land is privately owned, or if a Prospecting Licence is not already held.

81(c) 85 Returns of all minerals mined must be supplied for calculation of royalties, at the end of June and December. Invoices for rent and royalty due at these dates (in respect of Mining Licences granted under the Mining Act 1971) will be forwarded to licensees half-yearly by the Secretary of Mines. The annual rent is 50c an acre or part thereof.

83(3) Depending on the nature of any disturbance proposed for the land surface, the Minister may specify such conditions as he thinks fit for purposes of environmental protection. The preparation of an environmental impact report by the applicant may be required before a Mining Licence is granted.

See also "General Requirements for Mining Privileges".

Special Site Licences

89 A Special Site Licence is required where there is not adequate space on a mining or prospecting licence to place plant or buildings required for the prospecting or mining, and space on adjacent land has to be used. Such a licence entitles the holder to the exclusive occupation of the land for a battery or machine site, for the deposit or treatment of minerals or tailings, or for any other purpose directly connected with mining operations.

88(3) 91 A Special Site Licence may be granted only over unoccupied Crown Land. The maximum area of a Special Site Licence is 5 acres (2.023 hectares) and the area must be marked out on the ground in the prescribed manner. The term is the same as for the mining or prospecting licence associated, and renewal or exchange of these licences automatically renews the Special Site Licence.

R1st Sched An application for a Special Site Licence must be made on the prescribed form and accompanied by the following:

90(2) a) A plan clearly delineating the area concerned.

89(2) b) A statement of the purpose for which the licence is required.

R3 1st Sched c) The number/s of the mining privilege/s concerned.

R4 2nd Sched d) An application fee of $5

R20 e) Annual rent is $10 an acre or part thereof.

See also "General Requirements for Mining Privileges".

Other Licences: Roads, Tramways, Aerial Ropeways, Pipelines, Tunnels, Bridges. Easement Certificates.

92-95 Licences for these purposes directly connected

96-99 with mining operations may be granted to the holder of a prospecting or mining licence. The land must be marked out in the prescribed manner, 101-103 and the application accompanied by a plan. Such licences remain in force for the period of the associated prospecting or mining licence.

R21 Annual rent payable is $10 an acre or part thereof.

GENERAL REQUIREMENTS FOR FOR MINING PRIVILEGES (excluding Prospectors' Rights)

The following are requirements in addition to the details listed under individual licence descriptions.

R26(1) 1) Applications must be made on the appropriate forms which are available from the Department, from Inspectors of Mines and from Commissioners of Crown Lands. All applications submitted must be accompanied by five duplicates.

R26 2) Applications are to be posted to the Secretary of Mines, Mines Department, P.O. Box 6342, Te Aro, Wellington, or filed at the Head Office of the Mines Department, Anvil House, Wakefield Street, Wellington. Applications will be received only between 8 am. and 4pm. on normal working days. Correct applications will be registered and priority will be recorded, but applications that are submitted in an incorrect form, without relevant attachments, or that are void because the correct monies do not accompany the application, will not be registered and no priority will be recorded for them.

R1st Sched 104(5) 3) Within seven days of forwarding or lodging an application for a mining privilege a notice must be placed in a local newspaper (in the prescribed form), stating the ground that has been applied for, and a copy of this advertisement must be sent to the Secretary within seven days of publication.

112 4) Before forwarding or lodging an application a notice affixed to a post or board must be set up in a conspicuous place on the ground applied for, and this notice must be maintained until

the application is disposed of. Written permission must be obtained from the owner for entry on to private land, from the Conservator of Forests for State Forest land and from the Commissioner of Crown Lands for National Parks or Reserves. It should be noted that private land includes land under Crown lease, but which is not subject to associated rights relating to the prospecting, working, extraction or removal of the minerals on or under the surface of the land.

Rlst Sched 5) On the day an application is filed or forwarded, (excepting exploration licences) each occupier of the land, or any person who has interest or estate therein, must be notified in the prescribed manner by post or personal delivery.

The holder of a mining privilege must obtain the consent of the owner and occupier before entering on to any land -

a) for the time being under crop;

b) within 100ft (30.48 metres) of a yard, stockyard, garden, orchard, vineyard, plant nursery, farm plantation, shelter belt or airstrip;

c) situated within a borough or town district and that has an area of half an acre or less;

d) the site of, or situated within 100ft of any building, cemetery, burial ground, waterworks, race or dam.

Notes: In the Mining Act 1971 "mining" includes prospecting, and "mining operations" and "mining purposes" includes the erection of plant, buildings, etc.

Wherever land is privately owned the consents of the owners and occupiers must be obtained before any privilege will be granted.

Marking Out

Marking out of an application area is to be done by means of a peg at each corner, not less than 7cm square or 7 cm in diameter. If pegs cannot conveniently be used, cairns, piles of stones or mounds of earth may be used instead, but these must be not less than 60 cm high and 45 cm in diameter at the base. Each marker should bear a distinguishing mark, and the marks are to be the same throughout the licence area.

Trenches must be dug, at least 1.5 metre long, 15 cm wide and 15 cm deep, indicating the directions of the boundaries at each peg. If trenches cannot conveniently be dug, some other system may be used, such as finger posts, tree blazing, or paint marks on convenient trees. Tree blazing is not permitted in State Forests, and elsewhere should be used only as a last resort. The consent of the owner must always be obtained before any tree is blazed.

R35

On the bank or in the bed of a watercourse it may be acceptable to use arrow-headed paint marks on trees or rocks above high flood level, each mark being not less than 30 cm in length, and each line not less than 5 cm broad.

Where it is not practicable to mark the actual boundary lines, the marks used must indicate the actual boundary lines and their distance from the marks.

In the case of a tramway, road, pipeline, ropeway or tunnel, it is enough to put marks at the beginning, the end and at intervals of 450 metres.

The marking out must be maintained until the application is disposed of, or for a Mining Licence, throughout the term of the licence.

Applicants' Resources

During the processing of the application, the Mines Department may require the applicant to supply details of the financial and technical resources available to work the area applied for. If the applicant already holds other areas under licence ar application he must be able to show that all areas can be adequately worked simultaneously.

Environmental Impact

Every application for a licence must be accompanied by an assessment of environmental impact in a form such as that shown at the back of the Miners Guide. On the basis of this assessment a decision will be made on whether or not a full Environmental Impact Report will be required. Reports will not generally be required for Prospecting or Exploration Licences unless substantial felling or earthmoving is expected. Reports generally will be required for Mining Licences.

SUPPORTING INFORMATION

The information as appropriate in the schedule below is required for all applications, and is for use by the Mines Department only. It will be released in part or in whole to other government agencies or ad hoc bodies on a strictly confidential basis and only on occasions when it is essential to do so in order to assist the progress of applications.

SCHEDULE

1. Give details of the financial resources available to you to finance the expenditure which you have nominated in the method of working or work programme in the application form, proposal or venture submitted.

2. Give details of the technical resources available for you to carry out the method of working or work programme.

3. If you have made application for other areas and/or hold other current mining privileges give details for your proposals and resources for working all areas simultaneously.

4. List all areas applied for, held or which you have an interest in.

5. For prospecting or exploration proposals specify the main minerals sought.

6. If a company list the following details:-
   (a) Registered Office
   (b) Names of Directors
   (c) Authorised Capital
   (d) Secretary
   (e) Solicitors or agents
   (f) Main shareholding

7. If an overseas company, or representing overseas interests give details of your prospecting and/or mining proposals for New Zealand.

8. If an overseas company attach a copy of Reserve Bank letter of approval for your registration in New Zealand if available.

9. If the proposal is a joint venture between two or more parties list the following details:-

   (a) mining privileges involved in the transaction

   (b) expiry dates

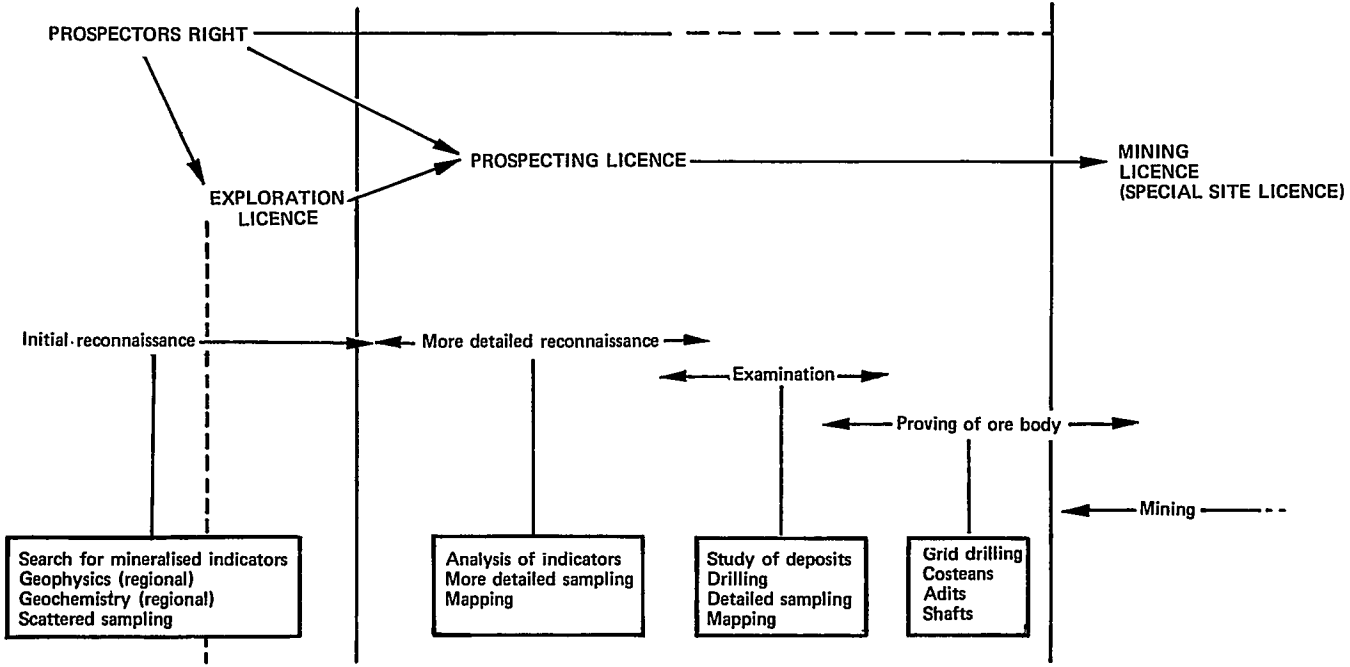
   (c) amount of work already done

   (d) expenditure incurred

Notes:

   (i) It would be appreciated if in addition to the above information a copy of your company's annual report or prospectus could be supplied.

   (ii) Where two or more companies are involved the above information must be supplied for each company.


PROSPECTORS RIGHT
PROSPECTING LICENCE
MINING LICENCE (SPECIAL SITE LICENCE)
EXPLORATION LICENCE
Initial reconnaissance
More detailed reconnaissance
Examination
Proving of ore body
Mining
Search for mineralised indicators
Geophysics (regional)
Geochemistry (regional)
Scattered sampling
Analysis of indicators
More detailed sampling
Mapping
Study of deposits
Drilling
Detailed sampling
Mapping
Grid drilling
Costeans
Adits
Shafts

MINING PRIVILEGE MAP SYSTEM

Copies of all applications for mining privilege are sent to the Lands and Survey Department, where they are plotted on to 1 inch to 1 mile cadastral maps (NZMS 177). Each privilege or application is numbered on each map and the number indexed on a sheet giving details of the application or privilege.

The maps are photographed and copies are available either as "aperture cards", with the map on a negative 1¾" x 1¼" mounted in a card 7½" x 3¼" or as printed sheets about ⅔ of the original size. These are available from the Lands and Survey Department at a cost of 40c for aperture cards and $1 for printed sheets. Each is supplied with a copy of the appropriate index sheet.

If further details of granted privileges are required, such as date of granting, expiry date, possible renewals etc., the index sheet provides reference numbers to enable these details for grants under the 1971 Mining Act to be obtained from the records of the Land Registry Office (Justice Dept) where the privilege is registered. Details of applications are available from the Secretary of Mines.

The maps are continually being updated and it is estimated that information regarding a privilege will appear on the map not more than two weeks after an application is submitted.

They give a generally accurate picture of the land situation at any given time, but there will be a few discrepancies due to the 2-week delay.

Enquiries to:

Statutory Division,

Lands & Survey Department,

P.O. Box 8003,

WELLINGTON

PLAN INDEX SHEETS

1) NOTES

a) Applications

i) Under the Mining Act 1971 all applications for licences are made to the Secretary of Mines, Wellington.

ii) Under the former Mining Act 1926 applications for mining privileges were made either to Warden's Courts (Justice Department), or Commissioners of Crown Lands (Lands & Survey Department.)

b) Registration

i) Any licence granted under the Mining Act 1971 is registered in the Land Registry Office for the land district in which the licence is located.

ii) Any mining privilege granted under the former Mining Act 1926 (including those where application was made to a Commissioner) is registered in the Warden's Court nearest to the land comprised in the mining privilege.

c) Searching

i) All mining privileges granted under either the Mining Act 1971 or the former Mining Act 1926 are available for searching at the office of registration.

ii) Warden's Courts under the former Mining Act 1926 were abolished upon commencement of the Mining Act 1971 but records still held there are available for searching.

d) Printouts Printouts will be made monthly for each master plan that has been updated during the month.

2) ABBREVIATIONS USED

i) Headings on Plan Index

Appln No. - Application Number
Ref. - Reference Number on Plan
Regd. No. - Registered Number.

ii) Licences - Mining Act 1971

EL - Exploration Licence
ML - Mining Licence
PL - Prospecting Licence
SSL - Special Site Licence

iii) Mining Privileges - Mining Act 1926

EAC - Extended Alluvial Claim
EQC - Extended Quartz Claim
ERC - Extended River Claim
ESB - Extended Sea Beach Claim
ML - Mineral Licence
MPW - Mineral Prospecting Warrant
OAC - Ordinary Alluvial Claim
OPL - Ordinary Prospecting Licence
OQC - Ordinary Quartz Claim
ORC - Ordinary River Claim
OSB - Ordinary Sea Beach Claim
PW - Prospecting Warrant
SAC - Special Alluvial Claim
SDC - Special Dredging Claim
SQC - Special Quartz Claim
SRC - Special River Claim
SSB - Special Sea Beach Claim
SSL - Special Site Licence.

iv) Land Registry Offices

AK	Auckland	HOK	Hokitika
BL	Blenheim	INV	Invercargill
CH	Christchurch	NAP	Napier
DN	Dunedin	NEL	Nelson
GIS	Gisborne	NP	New Plymouth
HAM	Hamilton	WN	Wellington

v) Warden's Courts

AX	Alexandra	OMU	Oamaru
BL	Blenheim	TA	Te Aroha
*CR	Cromwell	TMS	Thames
GOR	Gore	WI	Waihi
GRM	Greymouth	WP	Westport
HOK	Hokitika	WR	Whangarei

*The Warden's Court at Cromwell was closed and all records transferred to Alexandra where they are available for searching.

vi) Commissioners of Crown Lands

Records are not generally available for searching at Commissioners of Crown Lands Offices because applications granted by Commissioners were subsequently referred to Warden's Courts for registration. All abbreviations used in the application column to show when application was made to a Commissioner are the same as for Land Transfer Officers shown above - except for Blenheim. Applications made to the Commissioner at Blenheim are shown by the abbreviation - BC.

Where application wasmade to a Commissioner, the Warden's Court at which the granted mining privilege was registered is shown in the column for the Registered Number of the Mining Privilege.

vii) Inspectorates

In the bottom left hand corner of each master plan an abbreviated entry will be made to indicate in which inspectorate(s) the area of the plan is located, viz:

AK	Auckland	GR	Greymouth
HY	Huntly	DN	Dunedin
PN	Palmerston North		

This will enable anyone reading either printouts or aperture cards to be immediately aware of which Inspector to consult for further local information.

REPORTING AND OTHER REQUIREMENTS FOR MINING PRIVILEGES

General

154 Every holder of a mining privilege must send copies of every report made as a result of any geological, geophysical or geochemical survey on that privilege to the Secretary and to the Director of the New Zealand Geological Survey. All samples, materials, maps and records obtained in the course of such a survey must be kept for at least six months, and may not be disposed of even after that time unless thirty days' written notice is given to the Secretary, and to the Director of the New Zealand Geological Survey.

Reports are kept confidential by the Mines Department and the New Zealand Geological Survey until the mining privilege has expired, or unless the holder of the privilege gives his written permission for the report to be seen by members of the public.

Drilling

153 R24(3,4) Before any drillholes deeper than 50ft (or 15ft in alluvium) are put down an Inspector must be notified of the intention and location. Any core or other samples obtained must be adequately labelled and kept for one year, and not disposed of even after that time unless thirty days' written notice is given to the Secretary, and to the Director of the New Zealand Geological Survey. Core must be kept in suitable containers and the depth recorded at the end of each run. Where no core is obtained for 3 metres or more, a sample of cuttings weighing not less than 28.25 gm shall be taken at least every 3m and kept in a glass stoppered bottle giving depth, number of borehole and locality.

R42(1) After the completion of each borehole the person responsible shall send to the Inspector full details of the information obtained by the boring operations including:

a) a description of each formation penetrated;

b) the thickness of each formation penetrated;

c) the inclination of the borehole;

d) the results of any analyses made of core or sludge samples taken and the size and assay value of any ore deposit located by the borehole;

e) the method of calculating such value.

R42(2) Within one month of the completion of boring operation the person responsible shall forward a plan of the area on a scale of not less than 1:8000 showing the location of all holes drilled in relation to each other, to any well-defined landmarks, and to any workings in the vicinity. The cost per metre of drilling exclusive of transport charges must also be supplied, and the cost per metre drilled for the transport of the rig from hole to hole, not including transport to and from the area comprised in the mining privilege.

Prospecting Licences

R11 The holder of a Prospecting Licence, in addition to the requirements above, must furnish every six months a statement, verified by statutory declaration, of the money expended during the preceding six months, together with a report on the nature and results of the prospecting operation.

54(4) For a Prospecting Licence of over 100 acres, the Minister may determine that the work and expenditure must be of a certain minimum standard for the licence to continue to be held.

"Ore"and "Reserves"

When reports are being prepared, the terms "ore" and "reserves" should be used with circumspection, and their use should follow that recommended by the Australasian Institute of Mining and Metallurgy (Report by the Joint Committee on Ore Reserves, July 1972).

This report states that ore is a solid naturally occurring aggregate from which one or more valuable constituents may be recovered, and which is of sufficient economic interest to require estimation of tonnage and grade.

It also states that "ore" and "reserves" should not be used until an actual ore reserve can be estimated with reasonable accuracy by a competent person. (A Corporate Member of the Australasian Institute of Mining and Metallurgy with a minimum of five years' experience in ore reserve estimation would be regarded as a competent person). Early reports and statements should refer to "mineralisation", "anomalies", or some similar term having no economic connotation.

In line with established usage, ore reserves may be classified as proved/probable/possible or measured/indicated/inferred.

Measured (or proved) ore reserves are those established in three dimensions by excavation or drilling, but also include minor extensions of which there is practical certainty. Computed tonnage and grade are judged to be accurate within close limits.

Indicated (or probable) ore reserves are extensions from proved reserves where limits cannot be so precisely defined. They may also include ore where sampling sites or drillholes are too widely or inappropriately spaced to ensure continuity.

Inferred (or possible) ore (NOT RESERVES) is that for which some presumption is warranted that ore will be found. Estimates may be based on assumed continuity or repitition of which there is geological evidence, or on comparison with known deposits of similar type. This category is for use only with the other two.

TRANSFER OF MINING PRIVILEGES

Mining Act 1971

General

145 No mining privilege may be transferred, leased, mortgaged, pledged or otherwise dealt with without the written consent of the Minister. The Minister may, in his discretion, give his consent in whole or part, refuse his consent, or impose terms and conditions.

146(1) Every instrument of transfer or document evidencing a dealing with a mining privilege must be lodged with the District Land Registrar. Until this is done, the transfer or dealing has no effect.

Procedure

The instrument of transfer or document evidencing a dealing must be prepared (with the necessary modifications) in the form required by the Land Transfer Act 1952 and regulations. It should first be sent by the applicant to the Secretary of Mines, for referring to the Minister. It should be accompanied by supporting information (see under "Comment" below). No fee is required by the Secretary.

146(3)(a) If the Minister consents, the Secretary will endorse this on the instrument or document and will return it to the applicant. (The applicant will also be advised if conditions are imposed or if the Minister withholds his consent).

146(3)(b) If the instrument or document is liable for stamp duty, the applicant must at this stage have it stamped at the nearest office of the Inland Revenue Department.

146(3)(c) The applicant must then lodge the instrument or document with the District Land Registrar, together with his copy of the mining privilege (or privileges) which are being transferred or otherwise dealt with.

146(5) The District Land Registrar will then endorse his filed copy of the mining privilege and the copy sent by the applicant with the particulars of the transfer or dealing. The applicant's copy of the mining privilege will then be returned to him and the instrument of transfer or other document will be recorded and filed by the Registrar.

149 Any person may inspect, without fee, any mining privilege or instrument of transfer or other document lodged with the District Land Registrar under the provisions of the Mining Act. Certified copies may be obtained on payment of the prescribed fee.

Comment

The main matters of concern to the Secretary of Mines in making a recommendation on any application for consent to a transfer or dealing with a mining privilege are:

i) To ensure that privileges are not being speculated in or 'traded' purely for profit to the detriment of proper exploration or development.

ii) To ensure that the financial resources and technical competence of the parties are adequate for a reasonable programme of exploration or development.

iii) To consider the extent of local and over-

seas participation in any joint venture.

To assist with the consideration of these factors it is recommended that applicants provide full information in support of their applications at the time they apply for the Minister's consent; and in particular they should include:

- copies of agreements leading to the transfer or dealing;
- if a company, copies of financial statements, details of shareholding, list of directors etc. and evidence of technical capability;
- if an individual, independent evidence of financial and technical resources;

Documents evidencing "option" agreements and which are not actual transfers should be submitted for the consideration of the Secretary of Mines, and may at the applicant's request, be submitted to the Minister.

Applications are often accompanied by requests that consent be obtained as a matter of urgency. While very often these requests are made for good reason, it is not always possible to accord them the priority demanded. It is therefore in the applicant's own interest to forward proposals to the Department at the earliest practicable stage by letter and/or at the draft agreement stage, and to ensure that full information is included.

151 Most mining privileges granted under the Mining Act 1926 and filed in the office of a Mining Registrar will be retained there. When a new privilege over the same area is granted under the Mining Act 1971 - or in any case six years after the commencement of the 1971 Act - these records may be disposed of by the Mining Registrar.

Joint Ventures

Applications for joint ventures should provide the same information as required by the Mines Department for licences (see page 20), except insofar as this has already been provided for the licence applications.

FINANCIAL ASSISTANCE

The Minister may grant financial assistance to the holder of a mining privilege by way of grant, loan or subsidy (Section 227 of the Mining Act 1971).

Applications for financial assistance may be made only for specific programmes of work, but are not generally granted for preliminary reconnaissance or to overseas companies. The purpose of financial assistance is usually to give individuals or smaller companies a chance to prove a prospect to a stage where risk capital from other sources can be more readily attracted.

Where an assistance programme is approved, it is generally repayable contingent to a profit being made from any subsequent mining operation on the general area being prospected. The amount advanced is generally fifty per cent of the estimated cost of the work programme, which must be submitted and approved before any work to be subsidised is commenced.

Some form of security is required for assistance granted, and this is generally obtained by mortgaging the mining privilege under which the area is held.

If a loan is approved, a formal agreement on the terms of the loan is made with the applicant, including any special conditions that the Minister may see fit to impose. Typical of items assisted are drilling, roading, adits, shafts, equipment, or other forms of more detailed examination or mine development.

It is essential that the applicant himself should have put a certain minimum of effort and expense into the prospect before assistance can be considered, and there must in the opinion of the Mines Department be a reasonable likelihood of the discovery of an ore body.

Free grants are made only where the items assisted will be of immediate benefit to the general public as well as to the applicant. This applies particularly to building or upgrading roads.

An application for financial assistance should be made to the Secretary of Mines, and should be accompanied by statements of:

a) the work proposed;

b) a detailed estimate of the cost of the work proposed;

c) the financial capital of the company;

d) the present financial state of the company;

e) the qualifications of the technical personnel who will be carrying out the work;

f) the mining privilege under which the area of the item to be assisted is held. If the area is held by private agreement, full details must be given, and copies of such documents may be required by the Mines Department;

g) full details of any encumbrances in the mining privilege or private agreement, i.e. option agreement, etc.

Where the applicant is a company a statement of the shareholding and other relevant information may also be required.

MINING TAX

The legislation governing income tax on mining ventures, and the tax incentives granted to them, is contained in sections 129B, 129C and sections 153A to L of the Land and Income Tax Act 1954 and its subsequent amendments. The current legislation was introduced mainly by the amendments passed in 1971 and 1972.

It is not proposed to give a detailed explanation of the law affecting mining ventures operating in New Zealand but rather to provide a general indication of the conditions applied and the incentives available. Should more detailed information be required an approach should be made to any office of the Inland Revenue Department.

Since the passing of the 1971 amendment, approved mining companies have been subject to tax on the basis of net income derived after due allowance has been made for expenditure incurred in producing that income. Allowable expenditure includes exploration and development costs incurred to date.

Broadly speaking the Act makes provision for four classes of mining operators:-

A. Investors in Mining Companies

There are two types of incentive:-

1. Calls on Shares. Investors, including

companies, are entitled to claim as a deduction from assessable income, one third of the amount paid during an income year to meet calls made on shares in a Mining Company. (The tax advantage to the investor would of course depend on the amount of income he derives in that year.)

2. Advances to Mining Companies. A deduction is allowable against the income of New Zealand incorporated companies holding shares in New Zealand Mining Companies for advances made to the latter, and written off for exploring or mining for specified minerals or petroleum. The amount allowed is not to exceed 50 per cent of the holding company's assessable income.

A holding company can thus make advances to its mining subsidiary knowing that should the mining venture be unsuccessful, the amount written off, within the limits laid down, may be claimed as an expense by the holding company.

B. New Zealand Mining Companies

The incentives offered are restricted to companies incorporated in New Zealand, approved by the Commissioner of Inland Revenue as companies whose principal business is in exploring for or mining specified minerals or petroleum in New Zealand, including the continental shelf.

A "specified mineral" is one approved by the Minister of Finance for the purposes of section 153 of the Land and Income Tax Act. This section contains a list of specified minerals, and application may be made to the Commissioner for approval of other minerals. As general guide lines the Minister has regard to the importance the new mineral has:-

a) in the industrial development of New Zealand

b) as a means of reducing the importations of New Zealand industrial requirements, and

c) as an item of export from New Zealand.

Past approvals indicate generally that to be acceptable to the Minister of Finance for inclusion as a specified mineral, extraction costs should form a substantial proportion of its saleable value.

Three incentives are offered -

1. The Tax Rate. A concessional rate of two-thirds the normal company rate of tax is applied to the mining income or associated mining income derived by approved New Zealand mining companies.

2. Deduction of Certain Expenses. A New Zealand mining company can generally deduct all its exploration costs and such development expenditure including that of a capital nature as is incurred in the proving, winning and initial treatment of a specified mineral. The costs of associated mining activities may also be claimed.

   A mining company therefore has the advantage of being able to claim immediately against its mining or associated mining income a substantial portion of its establishment costs thereby considerably improving its early cash flow position.

3. Deduction of Anticipated Expenses. As an extension of 2 above, a mining company may also be permitted to deduct up to two year's budgetted expenditure for exploration and development in advance, providing there is sufficient current mining income against which the claim can be made. Expenditure of a capital nature may be included. This incentive offers a further means of improving the early cash flow in a mining company, particularly during the period of high expenditure.

C. Resident Mining Operators

A resident mining operator is a New Zealand resident, other than a mining company as defined, who is engaged in exploring, mining or associated mining activities for specified minerals or petroleum.

Such an operator is entitled to claim a deduction for the cost of exploration and development work undertaken in the year in which it is incurred. Certain capital expenditure may also be included. Unlike mining companies, however, an operator is not permitted to claim for two years advance expenditure.

Income of an operator is classed as either mining or non-mining, but the mining concessional tax rate is not applied.

Losses from one type of income can be offset against the other income derived, but for a loss of mining income the amount allowed is not to exceed 50 per cent of the non-mining income earned.

An operator therefore has the advantage of

being able to deduct certain capital expenditure and can enjoy a lower overall rate of tax than would otherwise be levied.

D. Non-Resident Mining Operators

This class of taxpayer is defined as a person or company not resident in New Zealand engaged in mining ventures in New Zealand. A mining venture is one where the principal activity is the exploration, mining or associated mining operations for specified minerals or petroleum in New Zealand.

This class of operator may claim deductions for exploration and development expenditure including those of a capital nature that qualify, and may also claim for up to two years budgetted expenditure.

No distinction is made between mining and non-mining income so far as income derived in New Zealand for a mining venture by a non-resident mining operator is concerned, and all income will be subject to a flat tax rate of 45 per cent.

Non-resident operators therefore have the advantage of being able to claim exploration development and mining costs as incurred as well as two years' anticipated expenditure, provided there is sufficient income against which the claim can be made.

OVERSEAS COMPANIES

Requirements for overseas companies launching a mining company or mining or prospecting in New Zealand

Section of Companies Act 1955

1) Registration

Every overseas mining company carrying on mining activities in New Zealand must register with, and file certain documents with, the District Registrar of Companies, Private Bag, Lambton Quay P.O., Wellington, within one month of establishing a place of business.

The following must be provided for registration:-

397

a) A certified copy of the charter, statutes, memorandum and articles of association or other documents providing for the constitution of the company.

b) A list of the directors and secretary of the company.

c) The name and address of some person or persons resident in New Zealand who is authorised to accept service of process and other notices in New Zealand, on behalf of the company.

d) Registration fee of $2.

e) Evidence of the consent of the consent of the Minister of Finance, required for:

Ist Sched Capital Issues (overseas) Regs 1965 & Amendments

i) an overseas company

registering or carrying on business in New Zealand;

ii) an "overseas person" raising money by floating shares in New Zealand;

iii) a company incorporated in New Zealand raising money outside New Zealand;

iv) an overseas company issuing shares or securities to be registered in New Zealand;

Enquiries and applications should be made in the first instance to -

Chief Cashier,
Reserve Bank of New Zealand,
P.O. Box 2498,
Wellington.

2) Obligations after registration

The Registrar of Companies must be notified within 21 days of any alteration made in the charter, of any change in the list of directors and secretary, or of any change in the name and address of the person authorised to accept service on behalf of the company. 401

Profit and loss accounts and balance sheets must be supplied both for total operations and for New Zealand operations, the latter certified by a person qualified for appointment in New Zealand as an auditor. 402

3) Registration of share transfers

Every overseas mining company operating in New Zealand shall -

1) make adequate provision for the registration in New Zealand of transfers of its shares;

2) have a registered office;

3) notify the Registrar of Companies of the situation of the registered office;

4) have a branch register (called the New Zealand Register) at the registered office;

5) appoint an attorney in New Zealand for registering the transfer of shares in the New Zealand register.

4) Licence for carrying on business in New Zealand

A licence is required to carry on business in New Zealand. No fee is payable by any mining company for this licence provided that its business is confined exclusively to mining, quarrying, or prospecting, or selling stone, coal or lime.

A company whose business is not confined exclusively to these activities (or contains others) is assessed at the rate of $1 for every $2000 nominal capital (equivalent in N.Z. currency) of that company (minimum $25, maximum $700). If the company is incorporated in some part of the British Commonwealth and is not employing the whole of its capital in New Zealand the rate is half this, with no minimum. Licences are due on 1 January and a reduction is allowed for incomplete years.

Note that gaining a mining privilege, though not in itself "commencing business", requires the licensee to prospect actively, and this does constitute "commencing business".

5) Restrictions on land acquisition

400 There are restrictions on the acquisition of certain land by any person who is not a New Zealand citizen, and legal advice should be sought if this action is contemplated.

114 When a property owned by an overseas company in New Zealand acquires a mortgage or charge, or when such a property is acquired, a copy of every instrument of such mortgage or charge must be lodged with the Registrar of Companies with a statutory declaration of due execution. The fee for registration is $4, and a registration certificate costs $1.

6) Cessation of activities in New Zealand

405 Three months' notice must be given of discontinuance of a place of business in New Zealand. This notice must be given in three consecutive issues of the New Zealand Gazette, and in three consecutive issues of a newspaper circulating in the district of the place of business.

7) If a New Zealand company is formed to undertake the New Zealand business of an overseas company, the following are still required:-

a) consent of the Minister of Finance under Capital Issues (Overseas) Regulations and Exchange Control Regulations;

b) Fees for registration (between $29 and $125);

c) an annual licence to carry on business.

Annual balance sheets and profit and loss accounts must be filed with the Registrar of Companies.

8) This information is purely for purposes of general guidance. Fore more complete information a pamphlet is available from the Registrar of Companies, Justice Department, entitled "Provisions of the Companies Act 1955 and other Acts as they affect overseas companies". This pamphlet should be read in conjunction with the relevant Acts.

SAMPLING AND ASSAYING

These notes give some practical hints on the proper method of taking and prepared samples, the procedure that should be observed in forwarding them for assay, and some brief notes upon valuing mineral deposits.

In collaboration with the Mines Department the Chemistry Division of the Department of Scientific and Industrial Research has for many years offered a free analysis service for samples submitted by bona fide prospectors to encourage and stimulate prospecting activity of private individuals who would not normally have the interest or finance available to invest in commercial analyses of materials resulting from part-time or amateur prospecting. Clearly it cannot be extended to mining or exploration companies who require analyses of larger numbers of samples rapidly and in confidence. The Chemistry Division is not permitted to operate in competition with locally available commercial facilities.

The assay of mineral samples is carried out by the Chemistry Division under the following conditions:

1) The location from which each sample is taken must be correctly and fully stated, preferably by a good map reference.

2) There must be promise that the result of the assay will add to the existing knowledge.

3) The result of the assay and the location of the sample will be declared to Mines Department.

To ensure that the best use is made of the assays and that the results are not lost, the Chemistry Division reserves the right after a suitable period to publish the results of such assays in scientific publications.

Samples for assay may be forwarded through the District Offices of the Inspectors of Mines at Auckland, Huntly, Palmerston North, Greymouth or Dunedin; the District Offices of the New Zealand Geological Survey at Otahuhu, Rotorua, Greymouth, Christchurch or Dunedin; Head Office Mines Department Wellington, the New Zealand Geological Survey, Lower Hutt or the Chemistry Division D.S.I.R., Gracefield.

Prospectors often send in samples that have not been taken or prepared in a reliable way and they often fail to comply with the necessary requirements.

For instance it is quite common for a single piece of stone to be submitted. Such a piece in most cases would not be a sample at all but merely a specimen and the assaying of it can rarely serve any useful purpose.

If the identification of the mineral is all that is required, a single specimen of ore may be sufficient to send, but in all cases where assaying is called for the sample forwarded should be representative of the whole body of material from which it is taken.

Again, some samples are submitted without any description attached that would enable them to be identified and these also often arrive without any accompanying letter of advice.

METHOD OF TAKING SAMPLES

A representative sample of a reef or lode should be taken over the full width of it, an even quantity of material being broken out of each foot of width, so that all the constituents of the mineral deposit are included in the same in as nearly as possible

their proper proportions. When sampling is done on an outcrop, all surface debris should be first carefully cleaned off, and, if the outcrop itself is much decomposed, it is advisable that the loose material should be removed down to the solid. The latter precaution is called for by reason of the fact that where any considerable amount of decomposition occurs there is liable to be local enrichment, with the consequence that an assay of the weathered material may easily give quite unreliable results.

When the reef has been stripped clear a cut is made right across it, at right angles to the dip, (Fig.1) and all the material thus taken out is placed on a sampling-cloth for breaking down and quartering.

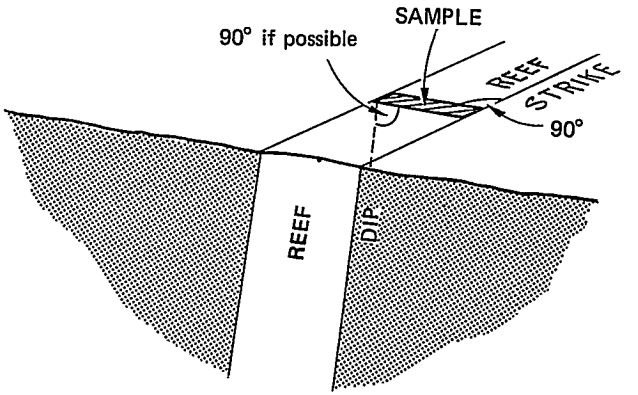


Fig.1

If the sampling is done underground, cuts should be made, in the case of a shaft, across the shortest line between the walls of the formation, and, in the case of a drive, across the roof of the drive again at right angles to the direction of the formation. (Fig.2). If sampling from the floor of a drive is undertaken (not a very good practice) very great care should be taken to clean away all loose material before taking the sample and to break the sample from the solid reef.

This procedure will minimise the chances of the sample being enriched from the fine ore which always accumulates in the floor of a drive.

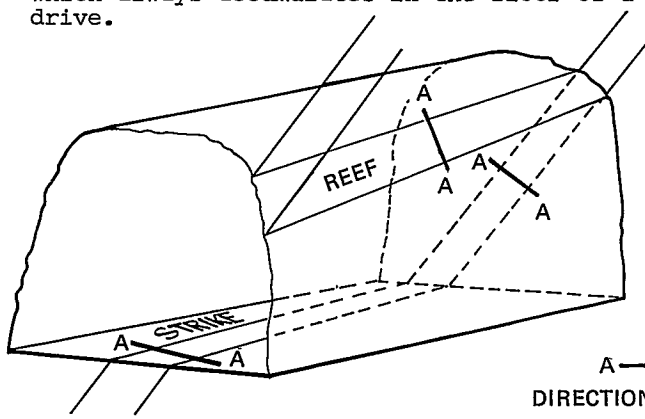


Fig.2

MIXING AND QUARTERING SAMPLE

The sampling cloth should be of canvas or heavy plastic sheeting from 5ft to 6ft in length and about 4ft in width. If canvas or heavy plastic cannot be procured any strong, close-woven

sheeting may be made to serve. The bulk sample is broken down on it to about ½" gauge, any handy piece of flat iron being used as an anvil, and the mass is thoroughly mixed. A good method of mixing is for two men to grasp the corners of the sheet. One then raises his hands and walks towards the other, giving each hand in turn a brisk upward movement that has the effect of rolling or pitching the sample forward along the middle line of the cloth. When the ore has been worked in this way down to one end of the cloth the procedure is reversed by the other men. When the material has been sufficiently mixed it is brought to the centre of the cloth in a rough cone-shaped pile. The cone is flattened out and is then quartered as in Fig.3. Two of the quarters A A are then rejected, all the material in them being carefully swept from the sheet. The two quarters are then mixed as before and quartering continued until 11b to 21b remains which is then bagged for assay.

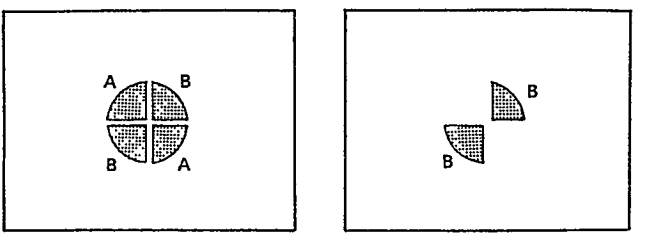


Fig.3

PACKING AND FORWARDING SAMPLE

Each sample should be enclosed in a small bag made of canvas or good sheeting, or, if this is not convenient, in strong paper, wrapping afterwards in a piece of sacking. Inside each bag or package a distinguishing mark or number

should be placed, by which the assayer and the sender can identify the sample. If a number of samples are being sent at the same time, they should all be placed in a box, or securely stitched in sacking. A separate advice note should also be sent naming the minerals for which it is desired the sample should be tested, and giving the numbers or marks of each sample and definite particulars of the locality from which it came, including section and block numbers and name of survey district. If the section and block numbers cannot be given, it will be sufficient if the name of a stream, hill, or other local feature adjacent to the locality from which the sample was obtained is furnished, together with the distance and direction from the nearest post-office, or other well-known place. Unless this information is given, the samples will not be assayed free of charge. In case advice is sought as to further prospecting or as to the possibility of the deposit from which the samples came being worked profitably, it is also advisable that the dimensions of the deposit be given, and the depth below the surface from which the samples were taken.

SAMPLING ORE-PILES OR DUMPS

The taking of a representative sample from a pile of broken ore, or from a mine-dump, is a somewhat more difficult task than taking it from a reef in the solid. In the case of a pile of ore, the first thing to be done is to break all large lumps of the ore down to a fairly even size - say, about 2 in. gauge at least. One method of taking the sample is

then to turn the whole heap over with the shovel, and set every tenth or twelfth shovelful aside, while another is to flatten the pile out to a low uniform depth, then run trenches through its centre at right angles to one another, and with the shovel go along the sides of each trench from end to end and skim off portion of the ore.

If the work is done with care, either of these methods will serve to give a reasonably accurate idea of the general value of the heap. Whichever method is followed, the further breaking-down and quartering of the bulk sample must be done in the manner previously described. In sampling a mine-dump, especially if it is a large and deep one, it is difficult to do a good job without much labour and expense. One of the best plans is probably to cut trenches into the dump at regular intervals from side to centre line and top to bottom, placing the whole of the material from each cut aside to be broken down and quartered in the usual way. To avoid sampling such piles or dumps, it is a good idea when sinking or driving to set aside say every tenth barrow or bucket in a small heap from which a sample can be easily taken afterwards by shovelling and quartering.

VALUATION OF A REEFING PROSPECT

By taking a series of samples in the manner described, at regular intervals along the exposed parts of a reef or lode, and having them assayed, at the same time keeping the widths over which each sample was taken, a prospector will be enabled to get a very good idea of the general value of his find, which he simply could not obtain by merely picking off speciment pieces and having them tested. Nearly all mining companies arrive at the values

and tonnages of their reserves by sampling in this way. Samples are usually taken at 5ft intervals, but the interval is determined by the nature of the ore and the distribution of values; where the widths and values are fairly uniform the intervals may be much longer than where the lode is irregular in width and the values occur more or less in pipes or shoots.

SAMPLING AND VALUATION OF ALLUVIAL DEPOSITS

Alluvial deposits, if dry, are usually tested by driving into them, along the bedrock if possible, and carefully cradling all the material removed. The recoverable gold can be caught in the cradle, and by weighing it, and measuring up the cubic content of the gravel taken out, the value of the ground per cubic yard is readily calculated. If a sufficient quantity of water for cradling or sluicing purposes is not convenient to the deposit, sampling by washing dishes of the gravel may give a close approximation of the values. Cuts should be made down the sides of the drives or faces, and the material removed from them bagged and carried to where water is available, and, as it may be difficult to measure the material, a near estimate may be reached as to the quantity tested by taking 120 small dishes or 82 large dishes to equal 1 cubic yard. For testing a deep body of wash, through the whole of which a little gold may be disseminated, rising to surface from the drives can be carried out, all the material removed being measured and cradled in the usual way. When circumstances do not permit of testing by driving, shaft-sinking may be resorted to, in which case all the material from the shaft is cradled (or sluiced) as when driving or rising. It is

good practice, however, when testing by sinking or rising to take the shaft or rise in sections, and cradle separately the gravel from each section. At times gold in such deposits occurs only in layers, or there may be layers in which it is so much more concentrated than in other parts of the gravel as to pay for blocking out separately, and the cradling of the material in sections enables this to be determined. When the ground to be tested contains heavy water, the testing is usually done by boring. Holes are put down to bedrock at intervals that depend largely on the size and nature of the deposit. The usual practice is to put them down in rows, at regular spaces from 100ft to 300ft across the run of the deposit. The lines of holes themselves may be spaced at similar distance, so that the whole boring plan is laid out in squares, but this practice is by no means always followed, some operators putting down the holes fairly close together in the lines, with the lines themselves at considerably greater distances apart. The latter is the more general practice, and if, when it is followed, the values are found patchy, or greater assurance is wanted, further lines are put down in between the original ones. In testing the values in boreholes, all the material removed is carefully cradled, preferably in short sections as the drilling proceeds, then by calculating the cubic content removed the average values throughout are readily arrived at. The values recovered from drilling of this kind are sometimes rendered slightly unreliable owing to gold coming in from outside the hole. This may result from drilling ahead of the casing shoe,

from the drill bumping on boulders, or even from the sucking action of the sand pump; consequently it is customary to deduct as a correction about 20 per cent of the actual values recovered. For each borehole, a record should be kept of (1) depth, (2) character of bottom, (3) character of gravel (whether large or small, cemented or free), (4) quantity of material removed, (5) quantity of gold recovered, (6) value of gold per cubic yard. A reliable plan of the area bored should also be made, showing the exact position of each hole, and it may be advisable to peg the position of each hole after the boring-machine has been removed.

The testing of open faces of gravel terraces seldom gives a correct idea of values, for there is usually a concentration of gold in such places, and the results are therefore unreliable. In all cases it is safest and best to drive or sink into the body of the wash before taking any samples.

LABORATORY FACILITIES

A booklet has been prepared by the Mineral Resources Council entitled "Facilities in New Zealand for mineral investigation and development". This was published in April 1971 and will be periodically updated. It is available from the Secretary, Mineral Resources Council, C/- N.Z.Geological Survey, P.O. Box 30368, Lower Hutt. It lists the laboratories in New Zealand where it is possible to have samples assayed or otherwise examined.

Terminology relating to ore reserves

The terms "ore" and "reserves" should be used with circumspection, and their use should follow that recommended by the Australasian Institute of Mining and Metallurgy (Report by the Joint Committee on Ore Reserves, July 1972).

The following are some of the main points mentioned in this report.

Requirement regarding competence

The report considers that competence and experience are the most important factors involved in reporting on an ore or mineralisation situation. A person would be regarded as competent if he is a Corporate Member of the Australasian Institute of Mining and Metallurgy, and also has a minimum of five years' experience in the field in which he is reporting.

Pre-Ore Reserve Terminology

The pre-ore stage extends from the earliest exploratory investigations to the stage at which an actual ore reserve can be estimated with reasonable assurance by a competent person.

The words "ore" and "reserves" should not be used in reports and statements within the pre-ore reserve stage. These terms imply economic viability and hence are not appropriate to early stage terminology. In lieu of such terms, "mineralisation" or some similar term with no economic connotation should be used.

References to geophysical or geochemical results should be only to "anomalies", and not to "mineralisation", "ore", "reserves" etc.

Ore Reserve Terminology

Four sets of definitions are given for ore-reserve terminology.

i) Proved/Probable/Possible.

The definitions below follow closely those recommended by the Committee of the Society of Economic Geologists in 1956.

Proved ore reserves are those in which the ore has been blocked out in three dimensions by excavation or drilling, but include in addition minor extensions beyond actual openings and drillholes, where the geological factors that limit the ore body are definitely known and where the chance of failure of the ore to reach these limits is so remote as not to be a factor in the practical planning of mine operations.

Probable ore reserves cover extensions near at hand to proved ore where the conditions are such that ore will probably be found but where the extent and limiting conditions cannot be so precisely defined as for proved ore. Probable ore reserves may also include ore that has been cut by drillholes too widely spaced to assure continuity.

Possible ore (NOT RESERVES) is that for which the relations of the land to adjacent ore bodies and the geologic structures warrant some presumption that ore will be found, but where the lack of exploration and development data precludes its being classed as probable.

NOTE - The "possible" category of ore should not be included as reserves. Where the category is used publicly, it should never stand alone, but should be used only when "proved" or "probable" reserves have also been reported.

ii) Measured/Indicated/Inferred

The definitions below closely follow those adopted by the U.S. Bureau of Mines in 1943.

Measured ore reserves are those for which tonnage is computed from dimensions revealed in outcrops, trenches, workings and drillholes and for which the grade is computed from the results of detailed sampling. The sites for inspection, sampling and measurement are spaced so closely and the geologic character is so well defined that size, shape and mineral content are well established. The computed tonnage and grade are judged to be accurate within close limits.

Indicated ore reserves are those for which tonnage and grade are computed partly from specific measurements, samples or production data and partly from projection for a reasonable distance on geologic evidence. The sites available are too widely or otherwise inappropriately spaced to permit the mineral bodies to be outlined completely or the grade to be established throughout.

Inferred ore (NOT RESERVES) is that for which quantitative estimates are based largely on broad knowledge of the geologic character of the deposit and for which there are few samples or

measurements. The estimates are based on an assumed continuity or repetition of which there is geologic evidence; this evidence may include comparison with deposits of similar type.

NOTE - The "inferred" category of ore should not be included as reserves. Where the category is used publicly, it should never stand alone, but should be used only when "measured" or "indicated" reserves have also been reported.

iii) Unclassified

The Committee recommends that where a company feels it cannot sensibly classify its reserves as in i), or ii) above, it may report them as "ore reserves" or "reserves" with the proviso that the estimate involves no greater uncertainty than the "probable" or "indicated" categories.

Where a company elects so to describe its ore reserves it should clearly define the basis of the estimate.

iv) Traditional

The committee believes that where a company has established over a number of years a method of reporting on ore reserves peculiar to its operation its practice should be recognised.

Definition of "Ore"

The Committee recommends that for the purpose of the above ore reserve dassifications, the term "ore" be defined as follows -

"Ore is defined as a solid naturally occurring aggregate from which one or more valuable constituents may be recovered, and which is of sufficient economic interest to require estimation of tonnage and grade".

CONSERVATION

Policy

The mining of our natural resources should be encouraged for the economic benefit that the community derives and demands, but these resources must be used wisely, and the environment safeguarded by enforcing appropriate terms and conditions included for that purpose in mining privileges.

This policy has been established by consideration of four basic points:

1) Exploitation of resources to maintain or increase standard of living.

As long as most of the world's population wants to maintain or increase its standard of living, world-wide exploitation of mineral resources is virtually inevitable. The same is true on a New Zealand-wide scale. If we are to change our policy of encouragement to mining, there would need to be signs of such public opposition as boycotting of mineral products - cars, household appliances, communications, tinned and other processed foods, etc.

2) Exploitation to make a profit for the company mining.

No company can be expected to set out mine without the expectation of a profit, but environmental protection must be part of the cost before profit. No company can be allowed to make a quick profit by indiscriminate mining.

3) Conservation of the best features of our natural environment for a higher "quality of life".

Our natural environment must be preserved to enable the enjoyment of a higher quality of life by all, but it is the view of the Mines Department that mining (a) will affect only an extremely small proportion of this natural environment and (b) can be done in such a way that no lasting damage is done to the environment.

4) Preservation of natural resources for future generations.

We should be concerned for future generations, but this should not prevent mining altogether; if we are able to do without mining, then presumably future generations could also do without mining and whether or not resources were preserved would not concern them. However, for the sake of future generations we should ensure that there is

a) a minimum of wastage of minerals,

b) a maximum of recycling of mineral products (e.g.metals) and

c) a rate of mining that does not exceed overall demand.

Discussion:

The Mines Department's activities must accede ultimately to whatever public demand may be. If the majority of the population were to decide that maintaining the environment untouched is of paramount importance, they would elect a government which would change the law to prohibit mining. However, at present there is clearly a demand for an ever increasing quantity of minerals and mineral products to increase (or merely to hold) the standard of living of an increasing number of people.

To raise the general standard of living of the present world population to that of the average New Zealand would required the production of iron and other metals to be increased 50-to 100-fold. The known ore deposits can nowhere near supply such a demand, yet it is inconceivable that the world population is not going to strive to increase its standard of living. To do this it must increase its consumption of minerals, for cars, houses, industry, food processing, etc. The present trend of thought requires us to assist peoples with lower standards of living to raise them, and it does appear that in years to come major ore deposits will have to be worked wherever they occur.

However, this is not necessarily a disastrous situation for the environment, since after all mining even on an enormous scale involves the disturbance of only a very small proportion of the land surface. Comparative figures for roads and for land disturbed* by mining in New Zealand, Australia and Canada are given below:

	N.Z.	AUSTRALIA	CANADA
Proportion of land surface as roads	0.71%	0.23%	1.32%
Proportion of land surface under mining licence	0.027%	0.4%	
Proportion of land disturbed by mining	0.001%	0.02%	0.006%

*Figures derived from: New Zealand Year Book 1972
Australian Year Book 1971
Queensland Government Mining Journal Feb.1972 (address by Sir George Fisher)
Mines Department records

Thus, even if indiscriminate mining were to take place, with no concern for the environment (a situation fortunately not possible in the world of today), the overall effect on the environment would still be very small. But one of the functions of the Mines Department is to ensure that before mining takes place a detailed assessment of its impact on the environment is made, and that the maximum care is taken to prevent damage.

Most mining companies have had to develop a sense of responsibility regarding the environment, and can be relied upon to cooperate in whatever way may be necessary to prevent environmental damage.

The Mines Department, as part of its responsibilities under the Mining Act, must balance the prospect of any disturbance of the environment that may be associated with prospecting or mining against the overall economic benefit. It must ensure that the

surface of the land is as far as possible restored to its original state, or to an acceptable agricultural one. It must prevent wasteful mining. It must resist being pressed to accede to demands for mining licences from companies whose objects are purely selfish short-term economic gains. It must work together with other departments, local authorities and organisations who also have responsibility for or interest in other aspects of the environment.

In the final analysis, it should be pointed out that conservationists have no monopoly on an appreciation of New Zealand's natural beauty. Most New Zealand geologists have become geologists because in their case this appreciation is more than usually well developed, and the same applies to many other members of the mining industry.

Sections of the Act relating to environmental protection

Mining privileges are granted by the Minister of Mines, who grants them only when he considers that the environment is adequately protected by the terms of the licence and any other conditions he may see fit to impose. He may vary these conditions at any time.

In addition, for all licences (except Exploration Licences) over public reserves,

State Forest, wildlife refuges and sanctuaries, soil conservation reserves, rivers and lakes, pasture and seabed, the appropriate Minister must give his consent before the licence can be granted. For land in National Parks or public reserves the consent of the Minister of Lands must be obtained for all licences including Exploration Licences. For National Parks and public reserves the Minister of Lands must, before giving his consent, consult with the National Parks Authority or the administering body of the reserve. In all such cases, the appropriate Minister may require that certain conditions be attached to the licence to protect the land and its flora and fauna.

26(8)

58

Notice of applications for mining privileges must be given in a newspaper circulating in the area in which the land concerned is located.

104

The holder of a Prospecting Licence has an automatic right to only one Mining Licence for each Prospecting Licence, with a maximum of 1000 acres or less. The grant of any further Mining Licence is at the discretion of the Minister. (This applies only to Prospecting Licences granted under the Mining Act 1971; prospecting privileges granted under transition provisions for the old Act have no automatic right to a Mining Licence).

57

Over special types of land (National Parks, reserves, etc) the appropriate Minister may exclude certain areas from the right to a Mining Licence, if he considers it necessary in the public interest that the land should not be disturbed.

26(7)

83 Over all other land where the nature of any proposed mining is such as to disturb the surface of the land (e.g. dredging), the application for a Mining Licence must be submitted to the Commissioner of Crown Lands or the local catchment board. The Minister may then grant the licence under such terms as he sees fit in the light of their recommendations.

82 The Governor-General may order that in certain classes of land (reserves etc) mining may take place only below the surface. Before application is made for a mining privilege, it is necessary to enter on 112 to the land for marking it out or erecting a notice. Entry may not be made on to any State Forest land without the written consent of the Conservator of Forests or to any National Park without the written consent of the Commissioner of Crown Lands.

117 Any person may object to an application for a mining privilege, and the application and objection may then be referred to a magistrate.

In addition to the environmental safeguards already provided by the Act, the applicant may be required to prepare an Environmental Impact Report before a Mining Licence is granted.

PROSPECTING AND MINING IN STATE FORESTS

(The following statement has been provided by the New Zealand Forest Service).

Mining is normally a permitted activity in State forests but there are some constraints. The Forest Service attitude is sympathetic to the recovery and use of minerals as long as primary objectives of management are not adversely affected, and subject to acceptance by mining organisations of any conditions imposed. Persons intending to apply for prospecting or mining privilges over State forest land should contact the local Conservator of Forests. By fully explaining the proposals and supplying adequate maps, applicants will facilitate action by the department and the obtaining of any necessary approvals by the Minister of Forests.

State forest land is managed and protected according to prescriptions in working plans approved by the Minister of Forests (s.26 of the Forests Act 1949). Forests are classified according to primary objectives of management, with secondary objectives permitted where these do not conflict with the primary role. The policy of the Forest Service is to accommodate the maximum number of uses of land and forests compatible with the primary objective, thus fulfilling a multiple use policy.

Some classes of State forest land are more rigidly protected than others. Thus forest sanctuaries are stringently protected by Act of Parliament from all forms of commercial activity including mining. Consequently prospecting is not permitted at all. There are less restrictive categories where some mining may be permitted but under very careful control, i.e. Scientific and Biological Reserves, and Amenity Forests. In State Forest Parks and gazetted Recreation Areas any mining would need to be conducted in a manner consistent with public use and enjoyment of the park; any proposals to mine in such areas or other special purpose areas would require very careful consideration before authority to proceed was given.

Parts of many river catchments consist of State forest land and some of these areas are very susceptible to erosion. While prospecting may be carried out, mining would be approved only if it is done in a way that minimises disturbance.

Proposals for prospecting or mining will be recommended for approval by the Minister of Forests (whose discretionary or conditional consent is required under s.26 of the Mining Act 1971) only following a careful study of the likely environmental effects of any subsequent mining activity. It is important that conditions safeguarding environmental values, including any restoration measures, are strictly adhered to as non-observance must result in penalties and tighter controls.

PROSPECTING AND MINING IN NATIONAL PARKS

(The following statement has been provided by the National Parks Authority)

Because of their responsibilities under the National Parks Act 1952, the National Parks Authority and the National Park Boards regard mining in National Parks as an activity in conflict with the principles on which the legislation is based and contrary also to the international concept of National Parks as fully protected natural areas. However the provisions of the Mining Act 1971 do not deny the right to prospect or extract minerals from the land inside National Parks and, accordingly Park Boards and the Authority will consider recommending the Minister of Lands to consent to applications where it is absolutely clear that the detrimental effect on National Park values willbe more than offset by the economic and other gains which the mining operations would provide.

The consent of the Minister of Lands to both prospecting and mining is required in terms of Section 26(8) of the Mining Act 1971. The Minister, who is required by the Act to consult the National Parks Authority, may refuse his

consent or may give his consent unconditionally or subject to such terms and conditions as he thinks fit to impose. The Authority's task is to advise the Minister on the likely effects of prospecting and mining on national park values, and to suggest conditions to minimise damage to natural and scientific features and loss of public enjoyment if it considers prospecting and mining could be permitted without undue damage. In considering proposals to prospect or mine, the Authority's aim is to ensure that operations are kept away from areas of particular scenic, historical or scientific value or of high public use or potential high public use, and that, once prospecting or mining is completed, the land is restored as close to its original condition as possible.

In no circumstances will the Authority recommend the Minister of Lands to consent to prospecting or mining in Special Areas or Wilderness areas in view of the exceptional features of these areas which led to their particular status.

In order that the Authority's recommendation to the Minister is soundly based, it is essential that it is provided with full information by Park Boards on every application. This can only be achieved where applicants provide Boards with detailed information on proposals; the type of detail required is:-

a) an accurate map of the are applied for

b) a list of the minerals sought

c) full details of the method of exploration proposed to be used

d) the proposed mode of access and egress

e) in the event of prospecting being successful, full details of mining methods, including transportation of materials mined and facilities required, including all roads or other means of transport.

The failure of applicants to supply this information will inevitably prejudice the success of the application; without this detail it will be impossible for the effects on Parks to be gauged by the National Park bodies.

Administrative procedures have been laid down to ensure a prompt consideration of applications but now that the legislation provides that the right of prospecting carries the automatic right to mine, the National Park bodies must necessarily examine each application very carefully to ensure all the information essential for a wise recommendation to the Minister is available. It is likely therefore that considerable delays will arise in some cases before a decision is available particularly if further scientific work is needed to determine in more detail the natural features of the area applied for. Consequently, applications for larger areas are likely to take more time to consider than those for smaller areas.

While, in the past, some mining companies have been meticulous in their adherence to the conditions under which prospecting has been permitted, others have done the case for mining activity in National Parks little good by ignoring the conditions laid for the protection of Park values by the Minister of Lands. Any breaches

of conditions arising under the new legislation will not only be regarded in a serious light by the Mines Department and National Parks Authority alike but will inevitably lead to more stringent conditions and closer supervision.

Supervision of the activities of those holding mining privileges in National Parks in terms of the conditions under which they were granted normally lies with National Park rangers and the National Park administering bodies look foward to full cooperation of mining companies to ensure recognition of the legitimate interests of National Parks and of the mining industry in New Zealand.

The above comments also apply generally to applications over public reserves as defined in the Reserves and Domains Act 1953 particularly in respect of scenic and allied reserves such as flora and fauna and scientific reserves.

LANDHOLDERS' RIGHTS

Sections of Mining Act 1971

All Crown Land is open for mining. However, "Crown Land", for purposes of the Mining Act 1971, includes not only land normally accepted as Crown Land, but also land the minerals on or under which are reserved to the Crown, and which is subject to a right-of-way for prospecting and mining of these minerals. Land on which the Crown has the right to authorise mining operations is also "Crown Land". Thus, even though a landowner owns the title to his land, it may still be Crown Land under the Mining Act, and hence open for mining. ~~However, the landowner's consent must be obtained~~.

Entry may not be made on to certain classes of land, even with a mining privilege, without the consent of the owner and occupier. These classes of land are:

a) Land for the time being under crop.

b) Land within 100ft (30.48 metres) of a yard, stockyard, garden, orchard, vineyard, plant nursery, farm plantation, shelter belt or airstrip.

c) Land situated within a borough or town district and that has an area of half an acre or less

d) The site of, or land situated within 100ft of, any building, cemetery, burial ground, waterworks, race or dam.

The holder of a mining privilege may apply to the nearest Magistrate's Court for authority to enter these lands if he feels that the owner has unjustifiably withheld his consent.

Forest plantations are not included in the above classes of land.

Landowners consent is not required when the minerals are owned by the Crown together with a right of access to the minerals. In all other cases consent is required.

If the landowner refuses to give his consent, the applicant may apply to the Secretary of Mines to have the land declared open for mining. The Minister may then
37 authorise a geologist to make a survey, and if the geologist reports that there is a reasonable likelihood of a worthwhile deposit, the Minister may declare the land open for mining.

Any person may object to an application for a mining privilege (apart from a Prospector's Right, but including an Exploration Licence).
127 This objection should be made on the prescribed form within 21 days of the giving of public notice of the application.

Owners are required to be notified of an application for any licence other than an
104 Exploration Licence over their land the day application is made. Others with an interest in the land should be notified where they can be ascertained.

Before entry is made on to private land for marking out etc. for mining privilege applications, the written consent of the owner must be obtained. Consent may not be withheld unreasonably, and if it is not given, the nearest Magistrate's Court may authorise entry provided the landowner has been
112 given 24 hours' written notice of the intention to apply to the Magistrate's Court. Similarly, the consent of the Conservator of Forests or the Commissioner of Crown Lands must be obtained before entering State Forest Land National Parks or public reserves.

PETROLEUM LEGISLATION

Section of amended Petroleum Act 1937

The legislative requirements concerning prospecting for and mining of petroleum are contained in the Petroleum Act 1937 as amended in 1939, 1941, 1953, 1955, 1962, 1965 and 1967, in the Continental Shelf Act 1964, and in Regulations issued under these Acts.

All petroleum existing in its natural condition within the territorial limits of New Zealand is the property of the Crown, whether title to the surface has passed from the Crown or not. Areas of the Continental Shelf (as described in the Continental Shelf Act 1964*) may be prospected or mined for petroleum only under the provisions of the Petroleum Act 1937.

Operations are divided into two phases. Exploratory activities are covered by Prospecting Licences (commonly abbreviated PPL to distinguish then from licences of the same name under the Mining Act 1971), and exploitation is covered by Mining Licences. Both are granted at the discretion of the Minister.

*The Continental Shelf Act 1964 interprets "continental shelf" as "the seabed and subsoil of those submarine areas adjacent to the coast of New Zealand, but beyond the territorial limits of New Zealand, the surface of which lies at a depth no greater than two hundred metres below the surface of the sea, or, where the natural resources thereof are capable of exploitation, at any greater depth".

Note: References to "the Minister" and to "the Secretary" are (unless otherwise specified) to the Minister of Mines and the Secretary of Mines.

"The Inspector" is the Inspector of Petroleum

Prospecting Licences

Prospecting Licences convey the exclusive right to explore the area stated in the licence.

5 One person or company may hold any number of Prospecting Licences.

Term: 5 years, renewable for a further 5 years if the holder has complied with the conditions of the licence.

5A Area: Maximum area over land or territorial waters is 200 square miles. If the licence is over a continuous area of continental shelf it may exceed 200 square 5(2) miles.

Deposit: Up to $2000 (or up to $20,000 for an area of over 200 square miles) may be required as security for compliance with the terms and 6 conditions of a Prospecting Licence. A bond may be accepted in lieu of a deposit, or the deposit may be waived, at the discretion of the Minister. (An example of the form of bond required is given at the 7 back of the Guide).

Rent: Annual rent at 50 cents a square mile or part thereof is payable half-yearly in advance on 1 January and 1 July.

8(1) Within three months after the granting of the licence, the licensee must begin a geological, geophysical or other similar investigation of the licence area. (This obligation is suspended while the licensee is drilling an exploratory well on the licence area).

96(2) At the end of three years the licensee must have begun drilling. This time limit may be extended in certain circumstances at the discretion of the Minister, when drilling is taking place on some other Prospecting Licence held by the licensee.

Mining Licences

A Mining Licence may not be granted over the area covered by a Prospecting Licence to any person other than the holder of the Prospecting Licence without the holder's consent.

96(4) The holder of a Prospecting Licence has the right to exchange it for one or more Mining Licences, provided he has substantially complied with the conditions of his Prospecting Licence.

96(5) As with Prospecting Licences, Mining Licences are subject to such conditions as the Minister thinks fit. However, if conditions on a possible Mining Licence have been stipulated at the time of granting of a Prospecting Licence, 96 these may not be altered upon exchange to a Mining Licence without the consent of the licensee.

It should be noted that a Mining Licence does not grant entry on to land, and at the time of consenting to entry the Minister responsible for the land in question may attach conditions to his consent (see section on "Entry to Land")

96(2) The licensee must carry on operations in a workmanlike manner and develop the area in accordance with recognised good oil-field practice.

9(7) Term: Maximum of 42 years. It may be renewed (if all obligations have been fulfilled) if application is made not later than 3 months before expiry, provided that the aggregate term of licence and renewal/s does not exceed 63 years.

9(5) Area: Maximum of 100 square miles.

Deposit: $40 per square mile, with a minimum
If deposits for other licences held
10 total not less than $10,000, the Minister may authorise acceptance of a guarantee or other security in lieu of a deposit.

Rent: $20 per square mile annually
11 (deductible from royalties paid)

Royalties: Royalty rates are specified in the licence when it is granted, the minimum being 5%, and royalties are computed on the selling value of all crude petroleum, casinghead
12 spirit and natural gas that is produced from the land comprised in the licence. The selling value is to be agreed upon by the Minister and the licensee or fixed by arbitration. Royalties are not payable on (1) natural gas not sold, or (2) crude or natural gasoline lost or used in production. Different royalty rates may be specified for different parts of the licence area.

Co-operative operations may be required to ensure maximum recovery and avoid unnecessary competitive drilling. 32

Refining of the product to meet New Zealand requirements may be required. 13

General Conditions

Certain of the more significant statutory provisions and regulations covering both Prospecting and Mining Licences are as follows:

- The grant of a licence does not give the licensee any proprietary right to natural gas derived other than that produced in consequence of his mining operations. 9(9)
- Areas of licences may be extended at the Minister's discretion on application by the licensee. 5(6) 14
- Sale, assignment or transfer of licences (except by way of mortgage) is prohibited without the Minister's written consent. Consent to a transfer will not be given until the transferee has made a deposit or given security as if he were an applicant for a licence. 15
- Licences may be surrendered by the licensee (whole or in part) before expiry.
- For Prospecting Licences 2 months' notice must be given, and for Mining Licences 6 months. Fees are reduced proportionately. 16

17. A licence may be revoked where the Minister believes that the licensee has not complied with the requirements of his licence.

22, 21, 20, 19. Rights of entry are given to licensees on to the land specified in the licence, excluding sea-bed, shore, public reserves or certain areas such as crop and municipal or various other areas.

31. Logs of boreholes and records of all operations on the licence area must be kept by the licensee, and copies of all reports must be forwarded to the Minister as soon as practicable.

R4(1) 11 7. Applications for licences must be accompanied by:

(a) application fee of $1

(b) registration fee of 50c

(c) licence fee - $2 for Prospecting Licence

R4(3,4) $4 for Mining Licence

(d) accurate plan on appropriate map and written description of the area applied for, with boundaries located by reference to trig stations, natural features, roads or title boundaries, or, if the area is below the sea, to geographical co-ordinates or continental shelf boundaries.

R4(5) R4(7)

(e) evidence of financial and technical capabilities of the applicant.

(f) full name and address of applicant.

Drilling and Reporting Requirements

Prospecting wells.

The licensee must give written notice of his intention to drill, and obtain the Inspector's written consent. The notice must include -

R21

(a) the location and elevation of the proposed derrick and drill rig

(b) the number and any other designation by which the well is to be known

(c) an estimate of the depth at which the first string of casing is to be set, the size and weight of the casing, and the method by which it is to be set.

(d) the estimated depth of the producing formation.

Geological Drillholes

For drillholes whose only purpose is obtaining geological information the Inspector must also be notified and his written consent obtained. The notice must include the following information:

(a) the type and capacity of the drilling equipment

R21

(b) the location of the first drillhole and the approximate area in which any related drillholes may be drilled

(c) the approximate number of proposed drillholes

(d) estimates of intended depths

(e) estimates of casing procedures (if any)

(f) the proposed precautions when any such drillhole is to be abandoned.

Reporting and recording

R27, R21, 31 A log of each well must be kept in the form specified in the Regulations, or other such form as the Minister of Mines may approve. This log must be available to the Inspector at all reasonable times, and from time to time a certified copy must be sent to the Secretary.

By the 5th of each month the licensee must supply to the Secretary a report of operations containing a statement of the following:

R23 (a) the depth drilled in each well

(b) anything of economic importance encountered

(c) the areas in which any geological or geophysical work has been carried out.

12 In addition the holder of a Mining Licence must furnish to the Secretary a monthly statement for computation of royalties, showing the quantity of crude petroleum and casinghead spirit produced and natural gas sold during the preceding month.

R24 An annual report in an approved form must also be supplied before 31 July for each year ending 31 May.

31 Certified copies of all geological and other reports for the licence area must be forwarded to the Secretary as soon as reasonably practicable. Such reports are kept confidential for the term of the licence.

Abandoning wells

R26 Before abandoning any well or removing casing at the operating structure, the licensee must ensure that all water access is cut off that may have been created to petroleum-bearing strata, mines or workable seams of coal, and all wells must be plugged.

The written approval of the Inspector must be obtained before such work is commenced.

Entry on to Land

The written consent of the appropriate Minister must be obtained before any person may enter pursuant to the Petroleum Act 1937 on to

(a) land held by the Crown, local authority, public body or trustees for the benefit of people in New Zealand. This includes parks, reserves, cemeteries, forests etc.

(b) a road

(c) land held for a public work

20 (d) the seabed, shore or bed of a river below high water mark

(e) a lake bed or river bed (not navigable) held by the Crown, or of doubtful ownership

(f) any land so specified by the Governor-General by Order-in-Council.

The written consent of owners and occupiers must be obtained before entry on to

(a) land for the time being under crop, or within fifty yards of a yard, garden, orchard, vineyard, nursery, planation or ornamental pleasure ground

21 (b) land situated within a borough or town district, and that has an area of half an acre or less.

(c) the site of, or land situated within 100ft, of any building, burial ground, reservoir or substantial improvement.

The Minister of Mines in his discretion may override refusal or partial consent.

27 The written consent of holders of mining privileges under the Mining Act 1971 or the Coal Mines Act 1925 is required for entry on to lands comprised in those privileges. In this case also, however, the Minister has discretionary powers.

Other Acts Applying

- Submarine Cables and Pipelines Protection Act 1966
- Water and Soil Conservation Act 1967
- Wildlife Act 1957
- Soil Conservation and Rivers Control Act 1941
- Fisheries Act
- Harbours Act 1950
- Marine Reserves Act 1971
- Marine Farming Act 1971
- Land and Income Tax Act 1954
- Motor Spirits Distribution Act 1953
- Motor Spirits (Regulation of Prices) Act 1933
- Clean Air Act 1972

Though there is no specific depletion allowance in the Petroleum Act, section 153 of the Land and Income Tax Act 1954 extends benefits to companies whose sole or principal source of business in New Zealand is mining for petroleum. This law is complex, but basically allows that no tax be paid until the company pays dividends in excess of the amount expended in development.

The distribution of motor spirit in New Zealand both wholesale and retail is subject to control under the Motor Spirits Distribution Act 1953. Licences to operate are issued by an independent authority to wholesalers and retailers. Wholesale and retail prices are also regulated by the Motor Spirits (Regulation of Prices) Act 1933 and the regulations made thereunder (1956).

THE MINES DEPARTMENT

The functions and organisation of the Mines Department.

The Department administers:

Mining Act 1971 and Regulations
Coal Mines Act 1925 and Regulations
Quarries Act 1944 and Regulations
Petroleum Act 1937 and Regulations
Atomic Energy Act 1945
Iron and Steel Industry Act 1959
Natural Gas Corporation Act 1967

This involves the Department in five main activities:-

a) Advising Government (on policies affecting prospecting and mining, to ensure that a balance is achieved between economic benefit to New Zealand and conservation of mineral resources).

b) Licensing (to provide a reliable system of mining privileges in accordance with the legislation, and to investigate the technical and financial capability of applicants for privileges).

c) Inspection (to ensure compliance with licence conditions and safe operation).

d) Financial Assistance (where it will stimulate worthwhile work).

e) Coal Mining (to produce and distribute coal from State Coal Mines).

The political head of the Department is the Minister of Mines.

The Permanent head of the Department is the Secretary of Mines. An organisation chart is shown below. Details of the activities of the Department are published each year in the Mines Statement (Parliamentary Paper C.2).

All correspondence to the Head Office of the Department should be addressed to:-

The Secretary, Mines Department,
Box 6342, Te Aro, Wellington

Telegrams and Cables - Mines Wellington

District Addresses are:-

Inspector of Mines & Quarries,

P.O. Box 1701, Auckland
34, Huntly
408, Palmerston North
37, Greymouth
525, Dunedin

Inspector of Coal Mines,

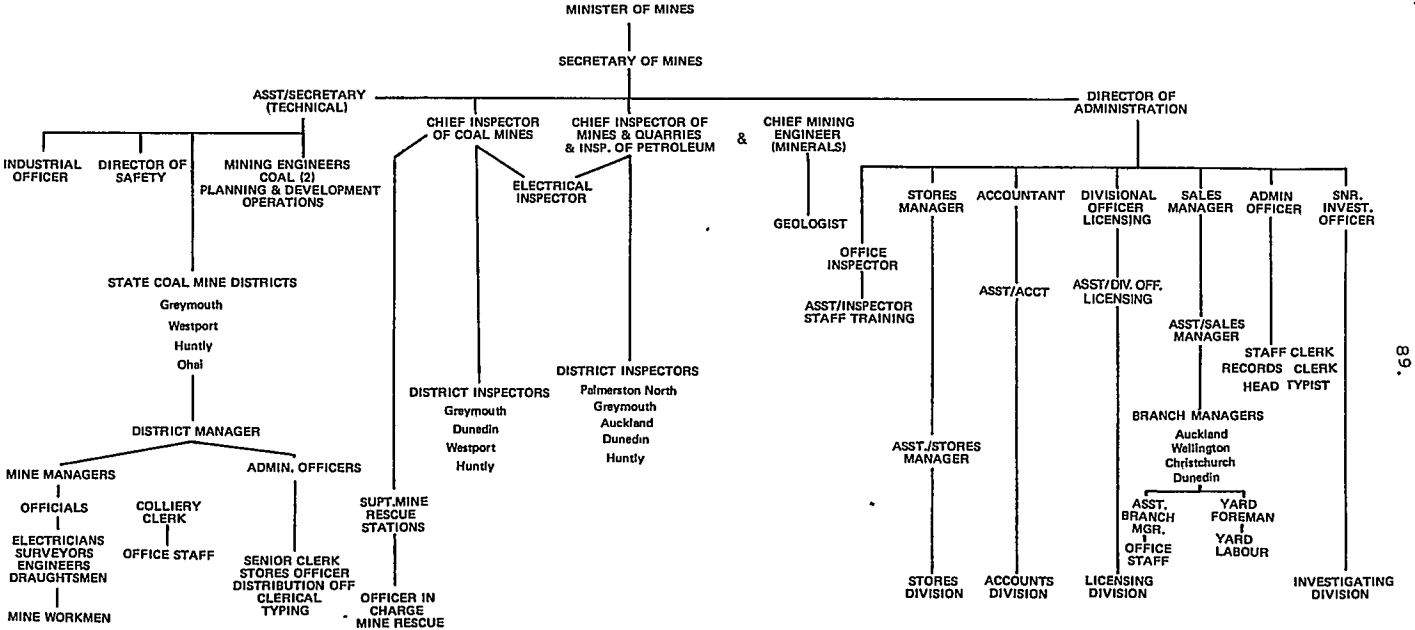
P.O. Box 34, Huntly
37, Greymouth
25, Westport
525, Dunedin

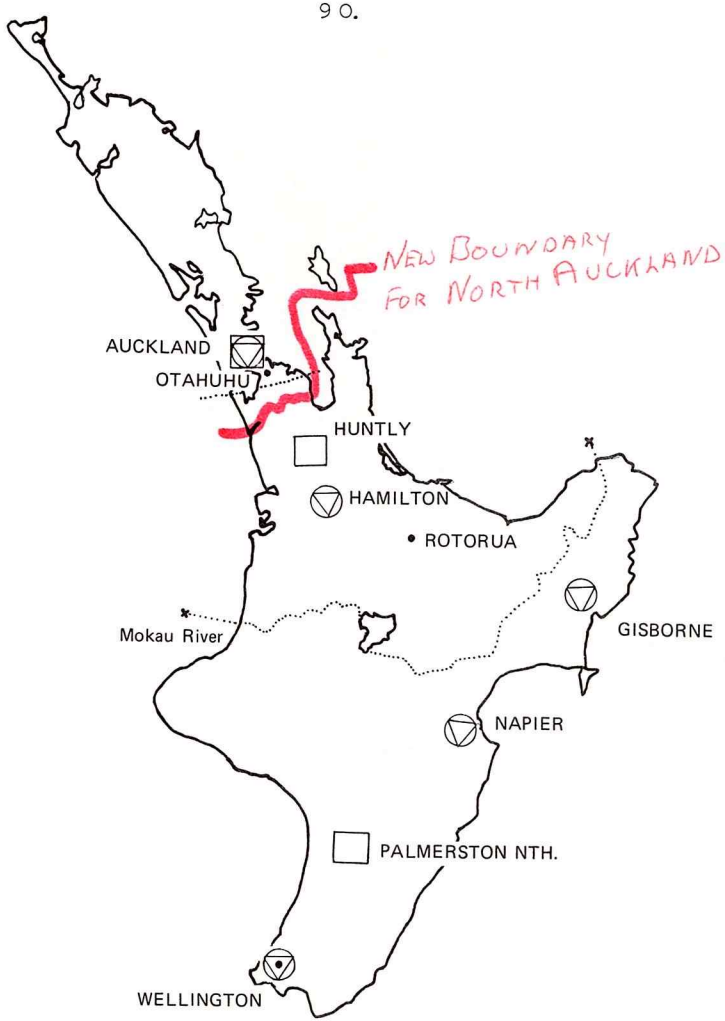
District Manager, State Coal Mines,

Private Bag, Huntly
P.O. Box 25, Westport
Private Bag, Greymouth
P.O. Box 23, Ohai.

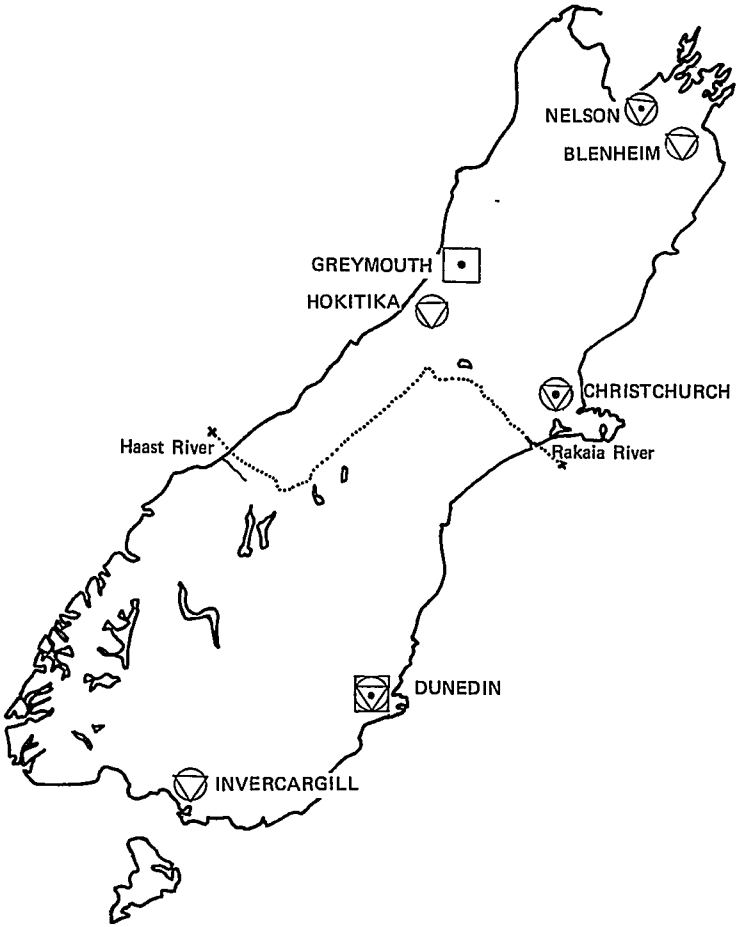
Branch Manager, State Coal Depot,

P.O. Box 1701, Auckland
506, Wellington
1303, Christchurch
525, Dunedin.


MINISTER OF MINES
SECRETARY OF MINES
ASST/SECRETARY (TECHNICAL)
DIRECTOR OF ADMINISTRATION
INDUSTRIAL OFFICER
DIRECTOR OF SAFETY
MINING ENGINEERS COAL (2) PLANNING & DEVELOPMENT OPERATIONS
CHIEF INSPECTOR OF COAL MINES
CHIEF INSPECTOR OF MINES & QUARRIES & INSP. OF PETROLEUM
&
CHIEF MINING ENGINEER (MINERALS)
ELECTRICAL INSPECTOR
GEOLOGIST
STORES MANAGER
ACCOUNTANT
DIVISIONAL OFFICER LICENSING
SALES MANAGER
ADMIN OFFICER
SNR. INVEST. OFFICER
OFFICE INSPECTOR
ASST/INSPECTOR STAFF TRAINING
ASST/ACCT
ASST/DIV. OFF. LICENSING
ASST/SALES MANAGER
STAFF CLERK
RECORDS CLERK
HEAD TYPIST
STATE COAL MINE DISTRICTS
Greymouth
Westport
Huntly
Ohai
DISTRICT INSPECTORS
Greymouth
Dunedin
Westport
Huntly
DISTRICT INSPECTORS
Palmerston North
Greymouth
Auckland
Dunedin
Huntly
DISTRICT MANAGER
BRANCH MANAGERS
Auckland
Wellington
Christchurch
Dunedin
ASST./STORES MANAGER
MINE MANAGERS
ADMIN. OFFICERS
OFFICIALS
ELECTRICIANS
SURVEYORS
ENGINEERS
DRAUGHTSMEN
MINE WORKMEN
COLLIERY CLERK
OFFICE STAFF
SENIOR CLERK
STORES OFFICER
DISTRIBUTION OFF
CLERICAL
TYPING
SUPT.MINE RESCUE STATIONS
OFFICER IN CHARGE MINE RESCUE
ASST. BRANCH MGR.
OFFICE STAFF
YARD FOREMAN
YARD LABOUR
STORES DIVISION
ACCOUNTS DIVISION
LICENSING DIVISION
INVESTIGATING DIVISION



INSPECTORS OF MINES AND QUARRIES MINES DEPARTMENT	□
BOUNDARIES OF INSPECTOR'S DISTRICTS	x·····x
COMMISSIONERS OF CROWN LANDS LANDS AND SURVEY DEPARTMENT	○
DISTRICT LAND REGISTRARS JUSTICE DEPARTMENT	▽
GEOLOGICAL SURVEY DEPARTMENT OF SCIENTIFIC & INDUSTRIAL RESEARCH	•



INSPECTORS OF MINES AND QUARRIES MINES DEPARTMENT	□
BOUNDARIES OF INSPECTOR'S DISTRICTS	x·····x
COMMISSIONERS OF CROWN LANDS LANDS AND SURVEY DEPARTMENT	○
DISTRICT LAND REGISTRARS JUSTICE DEPARTMENT	▽
GEOLOGICAL SURVEY DEPARTMENT OF SCIENTIFIC & INDUSTRIAL RESEARCH	•

FORMS

Forms of applications for licences, renewals, surrenders, public notices, objections and consents are shown in the Mining Regulations 1973.

For convenience, consents and a suggested form of bond are also shown below.

Application forms are available from Mines Department, Head Office and offices of Inspectors of Mines, and Commissioners of Crown Lands.

BOND TO SECURE DUE PERFORMANCE
OF PROSPECTING LICENCE/EXPLORATION LICENCE

KNOW ALL MEN by these presents that

(hereinafter called "the Licensee") and

(hereinafter called "the Surety") are jointly and severally held and firmly bound to the Minister of Mines acting for and on behalf of Her Majesty the Queen (hereinafter called "the Minister") in the sum of to be paid to the Minister for which payment to be well and truly made the Licensee and the Surety bind themselves jointly and each of them severally and also bind their respective successors and assigns firmly by these presents

DATED this day of 19 .

WHEREAS the Licensee has made application to the Minister under section 49/Section61 of the Mining Act 1971 (hereinafter referred to as "the Act") for a prospecting licence/exploration licence in respect of the land described in the Schedule hereto

AND WHEREAS the Minister has agreed to accept this bond (in lieu of a monetary deposit as required by section 54 subsection (3)/Section 62 subsection (1) of the Act) for the purpose of securing the due observance and performance by the Licensee of its obligations under any prospecting licence/exploration licence issued upon the said application and has agreed to enter into and execute these presents and has requested the Surety for the purposes aforesaid to join with them herein which it has agreed to do

NOW the condition of the above written bond or obligation is such that if the above bounden Licensee shall duly observe and

perform the various terms and conditions of any prospecting licence/exploration licence issued upon the said application on its part to be observed and performed then the above written bond or obligation is to be void and of no effect but otherwise is to be and remain in full force and effect

PROVIDED ALWAYS that no alteration or variation of the terms of such prospecting licence/exploration licence and no allowance of time, forbearance, omission or any act whatsoever by or on behalf of the Minister under or in respect of such prospecting licence/exploration licence shall in any way release the Surety from any liability or obligation under the above written bond or obligation.

THE COMMON SEAL OF)
_____)
_____)

was hereunto affixed in the)
presence of:)

THE COMMON SEAL OF _____)
_____)
_____)

was hereunto affixed in the
presence of:

SCHEDULE

CONSENT TO GRANT OF PROSPECTING LICENCE UNDER MINING ACT 1971

I, (Full name and address) being the owner/ occupier of the land/part of the land (here specify land) ..... for which a prospecting licence has been applied for by (Full name and address) do hereby consent to the grant of the licence and to any renewal thereof and to the grant in exchange therefor of a mining licence in accordance with the provisions of the Mining Act 1971, subject to the following conditions (Specify if required, otherwise delete):

Dated at ..... this ..... day of ..... 19 .

.....
Owner/Occupier

CONSENT TO GRANT OF MINING LICENCE OR LICENCE UNDER SECTION 93 OF THE MINING ACT 1971

I, (Full name and address) being the owner/ occupier of the land/part of the land (here specify land) ..... for which a mining licence (or a licence under section 93 of the Mining Act 1971) has been applied for by (Full name and address) do hereby consent to the grant of the said licence subject to the following conditions (Specify if required, otherwise delete):

Dated at ..... this ..... day of.....

19 .

.....
Owner/Occupier

Mines Form 2

APPLICATION FOR PROSPECTING LICENCE UNDER THE MINING ACT 1971 FOR AN AREA NOT EXCEEDING 100 ACRES

No. .....

Time Received

Secretary of Mines,
P.O. Box 6342,
Te Aro,
WELLINGTON.

NOTE: Original plus 5 copies required.

Name of applicant[1]:.....

Address: .....

Occupation: .....

Registered office: .....

Address for service:.....

Land description[2] (continue on separate sheet if necessary):.....

.....

.....

.....

.....

Time of marking out[3]:.....

Method of prospecting :.....

Number of years for which licence is required:..... years (maximum 3 years).

Names of owners and occupiers, etc. :.....

.....

.....

If transitional application under section 136 state date, place of issue, and number of existing mining privilege:.....

.....

Notice posted on ground (date)[6].....

Dated at this day of 19 .

APPLICATION FEE $5 PLUS FIRST YEAR'S RENT MUST ACCOMPANY THIS APPLICATION

.....
Signature of Applicant

1–7 For notes on preparation of Application, see overleaf.

Mines Form 3

APPLICATION FOR PROSPECTING LICENCE UNDER THE MINING ACT 1971 FOR AN AREA OVER 100 ACRES

No. .....

Time Received

Secretary of Mines,
P.O. Box 6342,
Te Aro,
WELLINGTON.

NOTE: Original plus 5 copies required.

Name of applicant[1]: .....

Address: .....

Occupation: .....

Registered office: .....

Address for service: .....

Land description[2] (continue on separate sheet if necessary): .....

Methods of prospecting and work programme[3] (continue on separate sheet if necessary): .....

Number of years for which licence is required: ..... years (maximum 3 years).

Names of owners and occupiers, etc.[4]: .....

If transitional application under section 136 state date, place of issue, and number of existing mining privilege: .....

Notice posted on ground (date)[5] .....

Dated at this day of 19 .

[6]APPLICATION FEE $5 PLUS FIRST YEAR'S RENT MUST ACCOMPANY THIS APPLICATION A DEPOSIT IS ALSO REQUIRED

.....
Signature of Applicant

1 7 For notes on preparation of Application, see overleaf.

Mines Form 4

APPLICATION FOR MINING LICENCE UNDER THE MINING ACT 1971

No. .....

Time Received

Secretary of Mines,
P.O. Box 6342,
Te Aro,
WELLINGTON.

NOTE: Original plus 5 copies required.

Name of applicant[1]: .....

Address: .....

Occupation: .....

Registered office: .....

Address for service: .....

Land description[2] (continue on separate sheet if necessary): .....

.....

.....

.....

.....

Time of marking out : .....

Minerals to be mined: .....

Method of mining : .....

Work programme : .....

.....

.....

Number of years for which licence is required: ..... years.

Names of owners and occupiers, etc.[6]: .....

.....

.....

If in exchange for prospecting licence state number: .....

If transitional application under section 136 state date, place of issue, and number of existing mining privilege: .....

.....

Notice posted on ground (date)[7] .....

Dated at this day of 19 .

[8]APPLICATION FEE $5 MUST ACCOMPANY THIS APPLICATION

.....

Signature of Applicant

1 8 For notes on preparation of Application, see overleaf.

ENVIRONMENTAL ASSESSMENT

APPLICATION FOR

BY

1. Describe the topography of the land involved e.g. flat, easy, rolling, hilly, steep, mountainous etc.

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2. Describe the vegetative cover, e.g. grass, pasture, crop, bush, (specify 1st or 2nd growth) forest (specify type) etc.

---

3. Give details of present land use, e.g. farming (specify whether beef, dairy, sheep, mixed) agricultural (specify type of crop, market gardening etc) residential, industrial, recreational (specify type of reserve), forestry

---

---

4. Comment on any recreational activity on the land that would be affected by the operation* e.g. fishing, tramping, skiing, boating etc.

---

5. Would the operation transform a significant physical area?

---

6. Would the operation affect existing communities or involve the establishment of a community of a significant size?

7. In respect of those living in the neighbourhood, is it likely that the operation will have a long term effect on their living conditions or quality of life or their use and enjoyment of the environment?

8. Is it likely that the operation would have a significant impact on the balance of nature in the area?

any plant or animal species likely to be affected?

creational, scientific or conservation values
fected?

10. Are scenic, recreational, scientific or conservation values likely to be affected?

- -

- -

- -

- -

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11. Is the proposal, although not significant environmentally on its own, likely to stimulate further developments which would have a significant environmental impact? (in all cases of prospecting an indication of the possible effects of a mining operation must be given.

- -

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- -

12. Does the proposal affect any areas or structures of historical or Archeological importance?

- -

- -

- -

- -

- -

13. Is the proposal likely to be one of substantial public interes

- -

- -

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- -

14. Does the proposal create a significant demand on a resou which is, or is likely to become, in short supply?

- -

- -

- -

- -

15. Does the proposal create significant pollution problems?

16. Has the proposal already been fully considered or is it intended that it be considered under the procedures of the Town and Country Planning Act 1953 or the Water and Soil Conservation Act 1967 and has this consideration involved a comprehensive examination of the impact of the proposal on the environment and provided an opportunity for public objection and appeal?